Social climate in forensic mental health settings

Social climate in forensic mental health settings: A systematic review of qualitative studies

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Abstract

Social climate is a commonly evaluated aspect of inpatient forensic mental health settings. However, there is little clarity in the literature on the components of social climate. To identify these components, qualitative studies of staff and patient experiences of social climate were systematically reviewed using best fit framework synthesis. An *a priori* framework was developed based on nine existing models of social climate. A systematic search identified twenty studies of sufficient quality to be included in the review. These studies included staff and patient perspectives across all levels of inpatient forensic settings. In all twenty-two themes were identified in the review papers. From these themes, a model of social climate was developed. Seven factors were identified as part of the social climate, including the therapeutic relationship, care and treatment orientation, the secure base and four aspects of the ward environment. The findings indicate that common measures of social climate may not fully represent the construct. Themes related to the patient group, the staff group, the physical environment and system level factors were identified as influencing social climate. The model described allows for consideration of interventions to positively influence social climate.

Keywords: Social climate, ward atmosphere, staff support, forensic mental health, inpatient, framework synthesis

Highlights

- Social climate was defined as a multifactorial construct with seven factors
- Existing measures do not account for all aspects of social climate
- Patient, staff, environmental and system level factors can influence the social climate
- Social climate contains dimensional constructs potentially amenable to intervention

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1. Introduction

Although social climate has been a concept in inpatient mental health research for over 50 years the essential elements of the construct remain unclear (Brunt & Rask, 2007). The variety of terms used to describe the 'quality' of the environment, such as therapeutic milieu, ward atmosphere and social environment (Brunt & Rask, 2007) is in part due to the interest in social climate across several disciplines including psychology (Moos, Shelton, & Petty, 1973), psychiatry (Clark, 1974) and nursing (Peplau, 1989). The current study will use the term social climate, referring to both the physical conditions of the ward, as well as the context and the social relationships between its members. Social climate can be seen as a dynamic characteristic of inpatient settings that influences or impacts upon the members of the ward, both staff and patients (Milsom, Freestone, Duller, Bouman, & Taylor, 2014).

Social climate is not synonymous with organisational culture (Duxbury, Bjorkdahl, & Johnson, 2006) which can be seen as "the way we do things around here" (Miller, 2015, p.74) and describes the organisation, management and informal structures that surround the functioning of the ward. While the culture of the ward is likely to impact on the social climate, the concept covers the social and emotional experience of the ward (Schalast, Redies, Collins, Stacey, & Howells, 2008). Similarly, the presence of a safe environment is important, though does not appear to be sufficient for a positive social climate. Social climate has been linked with levels of violence (Cutcliffe & Riahi, 2013; Nijman, 2002; Ros, Van der Helm, Wissink, Stams, & Schaftenaar, 2013). Furthermore, a recent systematic review of qualitative studies identified safety and security as a condition necessary for recovery in forensic mental health care (Shepherd, Doyle, Sanders, & Shaw, 2015). Social climate may be better understood as a multifactorial construct, which in forensic settings includes: safety from violence, supportiveness of therapeutic gain, and provision of opportunities for personal growth (Tonkin, 2015).

The breadth of the construct of social climate is also unclear. Moos' (1989) definition of social climate sees it as one of five factors within the dynamic system of inpatient psychiatric care, along with the physical environment, organisational structure and both staff and patient characteristics (Brunt, 2008). However, therapeutic milieu traditions include the physical and organisational structures as part of social climate or therapeutic milieu (Mahoney, Palyo, Napier, & Giordano, 2009). Theoretical perspectives and intervention strategies related to social climate include therapeutic community (Haigh, 2013) and milieu therapy approaches (Gunderson, 1978), that see the structure and environment as the means to engender change. Social climate is also important in prison environments and has been cited as potentially a key factor in the success of rehabilitative interventions (Day, Casey, Vess & Huisy, 2012). Therapeutic community approaches have been utilised in both prison and hospital settings (e.g. de Boer-van Schaik & Derks, 2010) and variations in the relative focus of different aspects of social climate are seen as indicative of different types of treatment environments. It has also been suggested that different populations benefit from different treatment atmospheres (Duxbury et al., 2006).

There is however, a potential difference between prison and hospital settings in terms of social climate. A therapeutic environment is a more clearly articulated goal of hospital settings, whilst prison settings have an additional deterrence function (Gunn, 2000). There is also, perhaps a longer history of the environment been seen as the treatment in hospital settings through milieu therapy, social psychiatry (Clark, 1974) and democratic therapeutic community approaches. Though prison based therapeutic communities are well established (Day & Doyle, 2010; Vandevelde, Broekaert, Yates, & Kooyman, 2004) it is perhaps reasonable to suggest that considerations of a therapeutic atmosphere are more to the forefront in hospital settings. The current review focuses on forensic mental health settings,

that is forensic wards and hospitals where individuals are detained due to mental health difficulties.

1.1.Social climate in forensic settings

The focus on social climate, both in research and clinical practice has changed over time, with therapeutic milieu approaches being supplanted by a focus on individual treatments (Duxbury et al., 2006; Oeye, Bjelland, Skorpen, & Anderssen, 2009). Despite this, social climate may be particularly relevant to forensic mental health settings, which can be highly structured and are often characterised by long-stay, static populations (Willmot & McMurran, 2013). Within forensic settings, a balance between security and therapy is often evident (Jacob, 2012). This dual focus, which incorporates the need to maintain awareness of the potential for community harm, may lead to difficulties in maintaining a recovery focus, over and above difficulties experienced in different areas of the mental health system (Mann, Matias, & Allen, 2014; Shepherd et al., 2015). The physical security of forensic settings (such as a 17 foot high fence; C. Taylor, 2011) may also impact on the social climate. Most patients are involuntarily detained, and in a UK context their treatment may also be subject to governmental oversight, which can lead to a sense of powerlessness in patients (Livingston, Nijdam-Jones, & Brink, 2012).

Whilst social climate has been researched over the last 50 years, there is a lack of conceptual clarity around the components and factors that influence social climate. In both research and clinical practice, the range of theoretical perspectives of social climate and lack of a shared definition has led to a somewhat unbounded concept. This can be evidenced by the range of descriptive studies (for review see: Tonkin, 2015) and the limited number of intervention studies based on social climate. Much of the evidence base on social climate has been quantitative in nature, and through this a range of factors have been identified that influence social climate. The quantitative evidence as it relates to measurement of social climate is

reviewed by Tonkin (2015). However, a source of evidence that may add to the conceptualisation of social climate is qualitative literature. For the majority of the time where social climate has been a topic of research forensic service users' voices were largely absent from the research literature (Coffey, 2006). However, there has been a growth in research in forensic settings giving voice to service user perspectives (e.g. Clarke, Lumbard, Sambrook, & Kerr, 2015; Shepherd et al., 2015). Given this source of evidence, returning to the perspectives of those who experience the atmosphere to identify its constituent components would seem a first step towards solidifying social climate.

Reviewing the qualitative evidence is also important due to the differences in coverage of the measures used in quantitative studies of social climate. Tonkin (2015) found 12 separate measures of social climate in 85 articles. The two most commonly used measures in Tonkin's review are the Ward Atmosphere Scale (WAS) and the Essen Climate Evaluation Schema (EssenCES). Do these measures accurately capture the extent to which a climate is therapeutic? Do they provide a basis for intervention to alter social climate? Tonkin (2015) suggests that further research to examine the theoretical construct of social climate is warranted to understand what is measured by current questionnaires. The WAS (Moos, 1989) has ten subscales, though it was developed over 50 years ago and may no longer be relevant to current forensic mental health environments (Rossberg & Friis, 2003; Schalast et al., 2008). In contrast, the EssenCES (Schalast et al., 2008) is a brief measure, developed as a screening instrument for forensic settings, with three subscales covering therapeutic hold, experienced safety, and patient cohesion and mutual support. Tonkin (2015) in reviewing the evidence suggests that the EssenCES has the most empirical support for use in a wide variety of forensic settings. There is less empirical support for using the WAS though there is recognition that as a longer measure, it may give a deeper insight into social climate.

However, the lack of definitional clarity and the wide range of measures used makes it difficult to compare findings. This is particularly evident when significant differences are found in studies comparing staff and patient experiences of a shared environment (Livingston et al., 2012; Long et al., 2011). Though this may relate to differing perspectives or measurement error, it may also be due to differences in the perceived therapeutic nature of the unit. This highlights a further difficulty in defining social climate, that is the extent to which the staff members' experience of their working environment differs from the patient experience of care and confinement on the ward. The extent of measurement of social climate suggests we have moved beyond the perspective of the World Health Organisation's (1953) view of social climate as intangible. However, a model describing the elements of social climate remains elusive (Brunt & Rask, 2007).

1.2.Research Aim

The review focused on qualitative studies of social climate in forensic mental health settings. Due to an identified lack of clarity in the definition of social climate the review sought to identify how the concept is described by patients and staff in forensic mental health settings. The review sought to develop a model that describes both the facets of social climate of forensic inpatient settings, as well as the wider factors that operate on the social climate. The aim was not to identify an optimal social climate, but to develop an understanding of the factors of the shared environment that contribute to staff and patient understandings of social climate. It was expected that both helpful and unhelpful aspects of social climate would be identified in the literature.

2. Systematic Literature review

While there are many available methods to synthesise qualitative studies (Barnett-Page & Thomas, 2009; Dixon-Woods, Booth, & Sutton, 2007), as the current review seeks to

examine the links between theory and lived experience framework synthesis was identified as the most suitable method. Framework synthesis allows for the development of a conceptual model of the phenomenon of interest (Carroll, Booth, & Cooper, 2011; Dixon-Woods, 2011) and has been identified as a means to inform health related decision making and practice, through identifying the likely sources of intervention (Barnett-Page & Thomas, 2009).

'Best fit' framework synthesis is a two stage review process, with the first stage being *a priori* selection of an initial framework of themes (Figure 1; Carroll et al., 2011; Carroll, Booth, Leaviss, & Rick, 2013; Cooper, Squires, Carroll, Papaioannou, & Booth, 2010). A systematic approach to developing the initial framework reduces the risk of bias in a framework based on the authors' prior experience or own theoretical preference (Booth & Carroll, 2015; Carroll et al., 2013). In the second stage of the framework synthesis, studies that meet the inclusion criteria for the main review are appraised, and then coded against the framework. Themes that do not fit within the framework are added to the framework through a process of interpretation similar to thematic analysis for primary research data (Booth & Carroll, 2015). From this final framework, a conceptual model is derived through synthesis of the relationships between the themes present in the framework.

2.1.Identifying the Initial Framework

A BeHEMoTH search strategy was used to identify models and theories for the framework (Booth & Carroll, 2015). The BeHEMoTH review search was limited to MEDLINE, and psycINFO (Appendix A). Primary qualitative empirical papers in the area of interest of the review were not included in the development of the initial framework. To be considered for the conceptual framework the model, theory or framework had to provide an explanation of social climate in institutional settings. This was broader than the main review question to ensure that theories from other areas of mental health and prison settings were not excluded. Further papers were added to the initial framework review if they were cited in papers in the

BeHEMoTH search, though not described with sufficient detail to contribute to development of an initial framework.

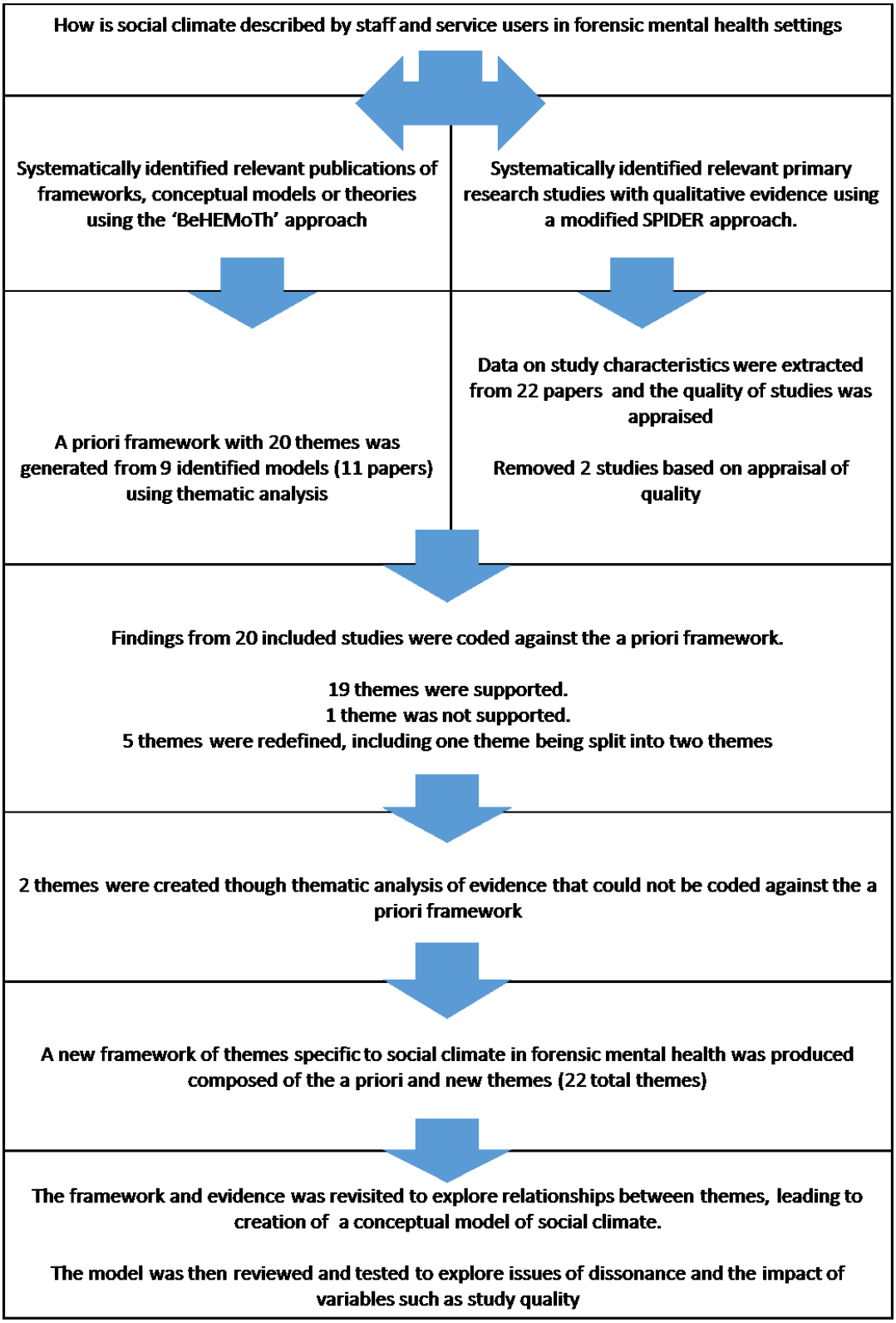


Figure 1: Summary of Framework synthesis review steps based on Carroll et al. (2013)

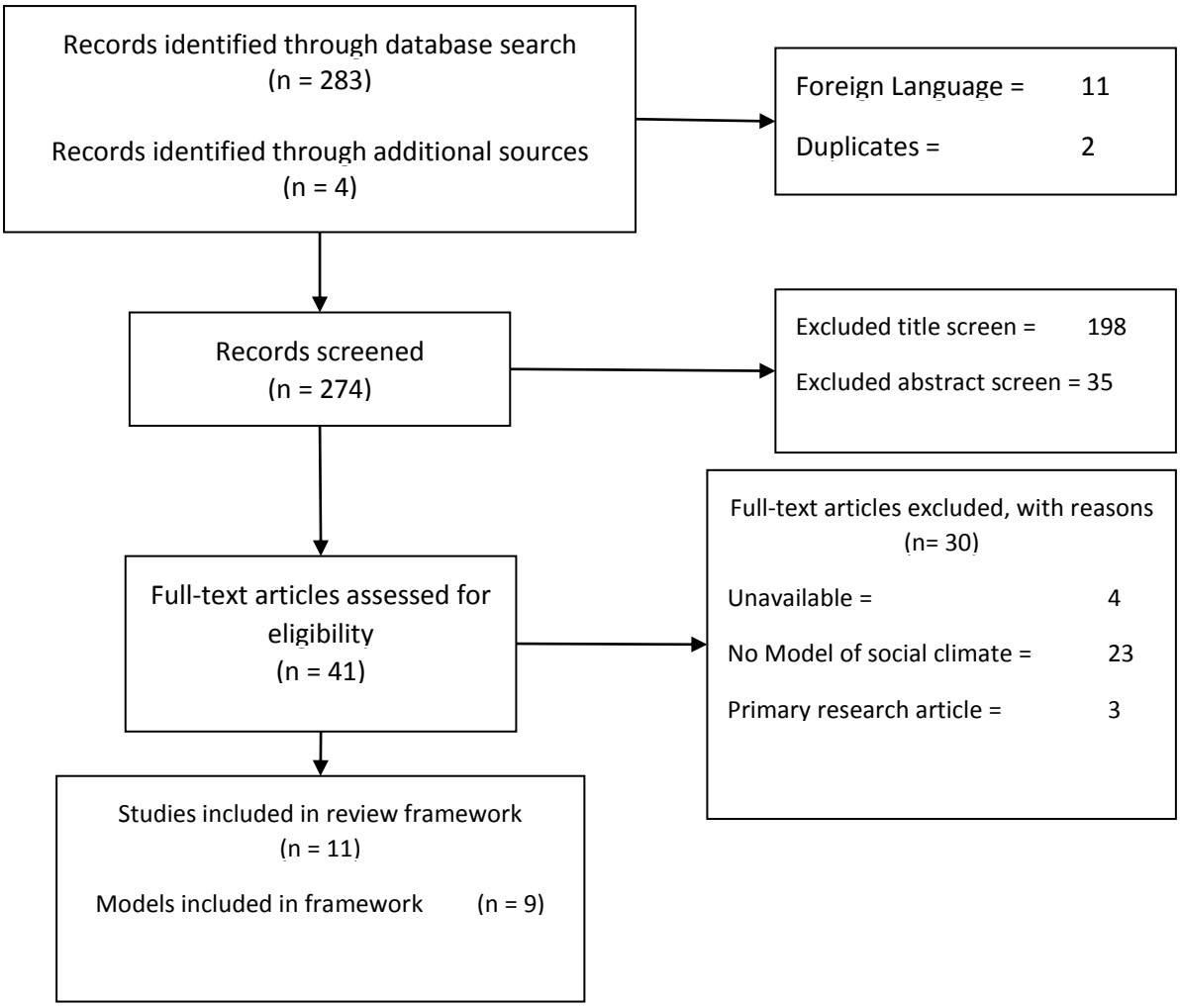


Figure 2: Flow Diagram for BeHEMoTH search

In all, nine models were identified from eleven papers (Figure 2). There were five models developed in forensic settings and four from non-forensic settings. Three of these models were based on measurement instruments and were seen as relevant to the review question, as questionnaires are the primary means through which social climate is studied (Tonkin, 2015). The nine models identified were (Appendix B):

1. Models of social climate based on the Ward Atmosphere Scale (WAS; Moos, 1989) were outlined in two articles (Brunt, 2008; Eklund & Hansson, 2001).
2. The Essen Climate Evaluation Schema (EssenCES; Schalast et al., 2008) was described in two articles (Alderman & Groucott, 2012; Tonkin et al., 2012).

3. The Prison Group Climate Inventory is described in one paper (PGCI; van der Helm, Stams, & van der Laan, 2011).
4. An adapted therapeutic community model was described in one paper based on a Dangerous and Severe Personality Disorder unit (DSPD; C. Taylor, 2011).
5. One paper described a model for forensic settings for individuals with intellectual disabilities, including both therapeutic community principles and processes related to Livesley's (2007) recommendations for treatment of individuals with personality disorders (e) (PD) (J. Taylor & Morrissey, 2012).
6. The Therapeutic Community model in non-forensic settings (f) was described in two papers (Haigh, 2002, 2013).
7. A World Health Organisation (g) (WHO, 1953) report including recommendations on ward atmosphere was cited by two papers (Brunt, 2008; Haigh, 2013).
8. Oeye et al. (2009) reported on milieu therapy, which is entered in the framework based on Gunderson's (1978) description of milieu therapy (h).
9. A reconceptualization of milieu therapy - the optimal healing environment (i), is also entered into the framework (Mahoney et al., 2009). Though three models are based on a therapeutic community framework, all are included in the framework to allow for a more complete conceptualisation (Carroll et al., 2011).

The concepts of these nine models were tabulated, compared and combined to develop an initial framework of twenty themes (Table 1; Appendix B). No sorting or grouping of themes was completed at this point of the review. This was to reduce the level of interpretation at this stage, which would be more usefully applied once a final framework had emerged from the main literature review. The initial themes are described in Appendix B, with the final framework themes described in Table 3. Four themes were identified solely from the four

non-forensic models of social climate (*Connections to Community, Validation, Occupation and External Environment factors*).

Table 1: Contribution of models to Framework themes

Framework (# of times identified)	**WAS**	**WHO (1953)**	**Therapeutic Community Model**	**Therapeutic Community /DSPD**	**Prison Social Climate**	**EssenCES**	**TC and Social Milieu**	**Milieu Therapy**	**Optimal Healing Environment**
Involving (5)	**X**		**X**	**X**			**X**	**X**	
Supportive (6)	**X**				**X**	**X**	**X**	**X**	**X**
Containing (4)			**X**	**X**			**X**	**X**	
Tolerance of Expression (3)	**X**			**X**			**X**		
Empowerment (4)	**X**	**X**	**X**	**X**					
Focus on developing Life skills (2)	**X**								**X**
Personal development opportunities (6)	**X**	**X**		**X**	**X**		**X**		**X**
Safety (3)	**X**					**X**	**X**		
Organisational Structure (5)	**X**	**X**		**X**				**X**	**X**
Clarity of ward ethos (5)	**X**	**X**	**X**	**X**					**X**
Staff control (4)	**X**			**X**	**X**		**X**		
Challenging of Difficulties (2)				**X**			**X**		
Physical Environment (2)					**X**				**X**
Connectedness to Community (1)		**X**							
Validation (1)								**X**	
Occupation (1)		**X**							
Service Attachment (2)			**X**	**X**					
Staff Therapeutic Orientation (3)				**X**		**X**			**X**
Patient Motivation (1)				**X**					
External environment Factors (1)									**X**

2.2.Search Strategy for qualitative synthesis

An adapted SPIDER (Sample, Phenomenon of Interest, Design, Evaluation, Research type) search strategy was used to increase specificity of results (Cooke, Smith, & Booth, 2012; Methley, Campbell, Chew-Graham, McNally, & Cheraghi-Sohi, 2014). For the sample of interest three broad concepts were identified: social climate, forensic mental health and inpatient settings. To ensure broad coverage of relevant terms, systematic reviews of inpatient settings were examined to identify appropriate search terms (Hallett, Huber, & Dickens, 2014; Papadopoulos et al., 2012). Potentially non-forensic terms 'psychiat*' and 'mental*' were included to maximise sensitivity (Appendix A). Databases were searched through OVID (MEDLINE, psycINFO, EMBASE, Health Management Information Centre (HMIC), Cochrane Library); EBSCOHost (CINAHL, PBSC, ERIC) and Proquest (PILOTS, ASSIA, Social Services Abstracts). Grey literature was also searched through OpenGrey, Proquest: Dissertations and Theses Global and Sociological Abstracts. The reference lists of included papers were hand searched to identify any additional articles.

2.3.Inclusion and Exclusion Criteria

Studies were included in the review if they reported on qualitative analysis of the lived experience of service users or staff members in forensic mental health inpatient settings. The review aimed to identify studies which reported on perspectives of the ward atmosphere or social climate. Both peer reviewed empirical work and doctoral theses were considered for inclusion in the review. Only studies in English were considered. Studies reporting on quantitative data, studies based in settings not explicitly identified as forensic mental health and studies on non-adult samples were excluded. Studies concerning community based samples, reviews, conference abstracts, dissertations and letters to the editor were also excluded.

Due to the lack of conceptual clarity around social climate, studies which were not explicitly seeking perspectives on social climate were included if their focus was on aspects of the treatment setting rather than on internal factors, illness factors or structured therapeutic input. Qualitative studies identified during title screening as assessing perspectives on aggression, violence, hostility and recovery in forensic mental health settings were reviewed at the abstract or full text level to ascertain if they provided coverage of themes related to the *a priori* framework. Studies which assessed the impact of single factors such as; respect (Rose, Peter, Gallop, Angus, & Liaschenko, 2011) or experiences of trauma (Rossiter, 2015) were excluded at the full text review level as their specific focus was not seen to not assess the review question (Appendix C).

A data extraction form incorporating quality criteria was developed (National Collaborating Centre for Mental Health, 2007) (Appendix D). Papers were appraised using bespoke quality criteria based on the Cabinet Office Framework (Spencer, Ritchie, Lewis, & Dillon, 2003) and Critical Appraisal Skills Programme (2014) tool for rating quality of qualitative research. Consideration was given to quality of reporting of items on study design, participant selection, method of data collection and analysis method (Carroll, Booth, & Lloyd-Jones, 2012). The final quality assessment contained 12 items covering study design, analysis methods, findings and reporting quality. Each item was rated on a three point scale: not covered (-); adequately covered (+); and fully covered (++). The quality criteria aimed to examine the study design, the rigour with which studies were conducted, as well as the credibility of claims (Spencer et al., 2003). Studies with low reporting quality (5 or more criteria not covered) were excluded from the review to ensure trustworthiness of findings. Where two search results referred to the same data set, papers in peer reviewed journals were given priority and rated for quality, for example, a record based on thesis results and a later published empirical article (E.g. Jacob, 2010; Jacob & Holmes, 2012).

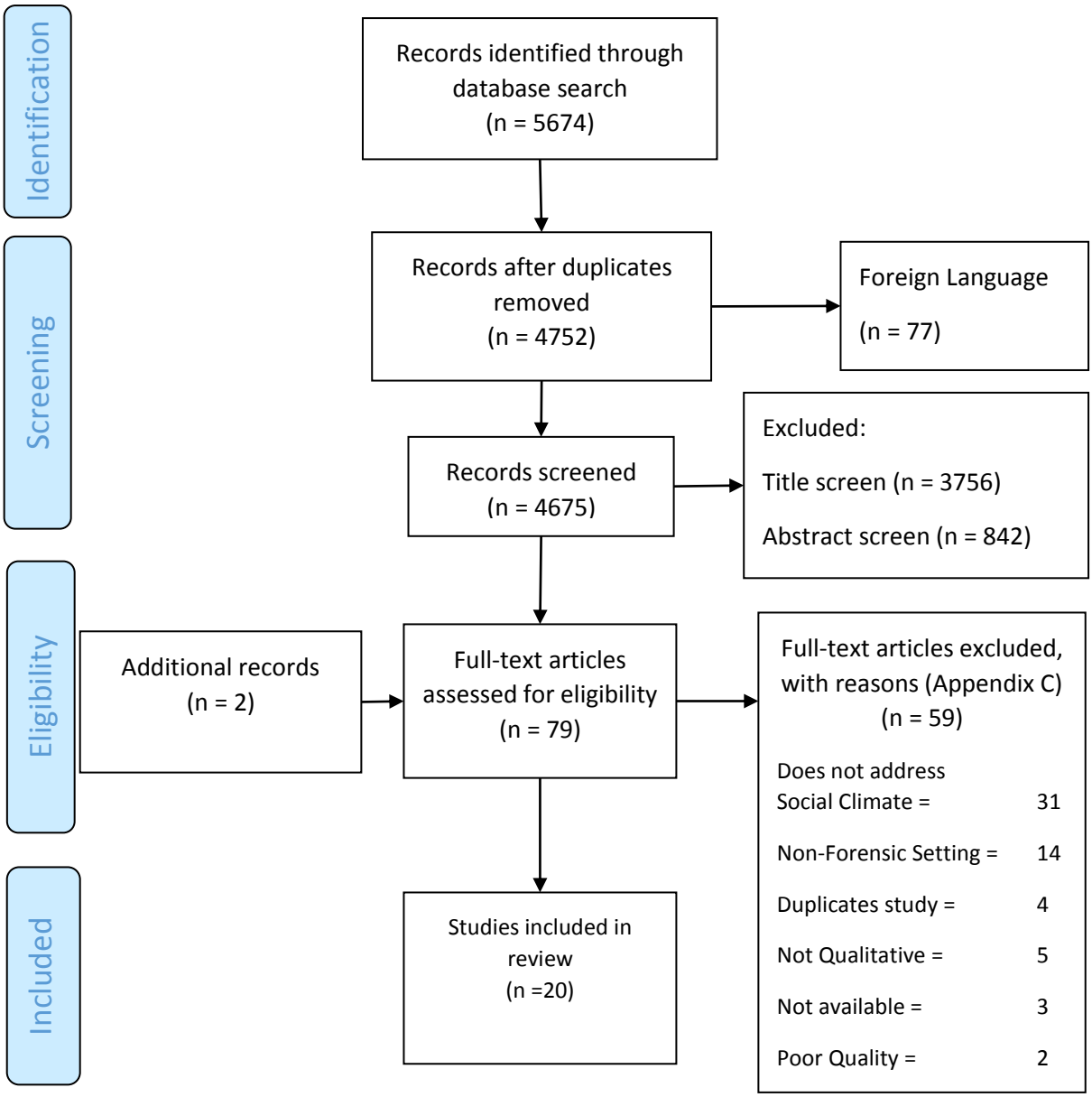


Figure 3: Flow diagram for qualitative synthesis

3. Results

22 studies met the inclusion criteria (Figure 3). Two papers were excluded based on low reporting quality (Barsky & West, 2007; Riordan & Humphreys, 2007) leaving 20 in the final review (Table 2). Riordan and Humphreys (2007) did not report on the analysis methods used, while Barsky and West (2007) provided insufficient detail on the design of the study and method of data collection. The two excluded papers did not contain any themes or perspectives related to social climate that were not captured in the included studies. The included studies were from UK (n=9), Sweden (n=5), Canada (n=2), Australia, New Zealand,

Belgium and South Africa (each n=1). The studies were drawn from a range of settings across forensic mental health including high security hospitals (n=9) and medium secure units (n=5). Two studies reported on data across medium and low levels of security (Barnao, Ward, & Casey, 2015a; Long, Knight, Bradley, & Thomas, 2012). Four papers identified forensic wards, or forensic hospitals but did not provide specific information on the setting. Within the sample, four papers identified specific Personality Disorder services (Abel, 2012; Kurtz & Jeffcote, 2011; Millar, 2011; Sainsbury, Krishnan, & Evans, 2004). No samples related to intellectual disability patients were assessed as meeting the inclusion criteria. Both staff and patient voices were present in the included papers. The papers explored a range of constructs, including social climate, recovery, violence and aggression, motivation, hostility and the task of nursing.

11 studies reported on patient perspectives. Seven studies reported on staff perspectives. Two studies reported both staff and patient perspectives. In all 676 participants' views are reflected in the review, incorporating 221 patients (Male = 167; Female = 53; 1 not recorded) and 454 staff (Male = 273; Female = 160; 19 not recorded). Most studies ranged in number of participants from 6 – 30 with the exception of two survey studies with samples of 139 (Rask & Aberg, 2002) and 246 (Brunt & Rask, 2007). Studies mainly utilised individual interviews (n=16), though focus groups (n=2) and surveys (n=2) were also used. A range of analysis methods were utilised across the data including: thematic analysis (Braun & Clarke, 2006) (n=7); Grounded theory (Charmaz & Smith, 2003) (n=4); content analysis (Graneheim & Lundman, 2004) (n=4); Interpretative Phenomenological Analysis (Smith, 2004) (n=2); Reflective Lifeworld Approach (Karin, Nyström, & Dahlberg, 2007) (n=1); Tesch's open coding (Hsieh & Shannon, 2005) (n=1); Interpretive Descriptive approach (Thorne, Kirkham, & O'Flynn-Magee, 2004) (n=1).

3.1.Refining themes

Nineteen of the initial factors in the framework were supported by the study data (Table 3, Table 4). The theme *focus on developing life skills* was not identified in the papers and so was removed from the final review. The data suggested that initial definitions should be revised for several themes (Table 4). The theme *supportive*, captured perspectives related to both the therapeutic relationship and mutual support. Seventeen of the reviewed papers identified a primacy of the therapeutic relationship, both directly as part of social climate and as a facet of the experience of recovery, motivation and aggression. However, supportive also incorporated experiences of mutual support between patients, present in ten studies, suggesting that separate themes of the *therapeutic relationship* and *mutual support* may more accurately describe the data. The theme of *tolerance of expression*, which in the initial framework described therapeutic community concepts of open expression (Haigh, 2002) was only supported in the model by descriptions of tolerating diversity and individuality (Long et al., 2012). Consequently, this theme is refined to *tolerance of diversity*. The theme of service attachment was cited in one study (Millar, 2011). The theme was renamed *secure base* to reflect this account. The theme of *personal development opportunities*, which in the framework described a range of therapeutic actions, was described in the model in terms of psychological and medical interventions and so was redefined as *formal treatment*.

In addition, five papers reported themes that were not coded in the initial framework: person centred approach, respecting individuality, treating service user as a whole person, collaboration in care, and gender (Barnao et al., 2015a; Long et al., 2012; Millar, 2011; Tapp, Warren, Fife-Schaw, Perkins, & Moore, 2013; Wright, Duxbury, Baker, & Crumpton, 2014). Through a process of thematic analysis the framework themes of *person centred approach* and the role of *gender* were identified (Carroll et al., 2013). Definitions of these themes are provided in Table 3. The review data associated with *gender* is further described under the

heading *Attitude to diversity, cultural and gender issues*. *Person centred care* is further described under *care and treatment orientation.*

Table 2: Included studies for Systematic literature review

#	Study, Year, Country	Setting, Sample	Aims	Design, methods	Main Findings	Quality Rating
1	Abel (2012) **UK**	Medium Security PD unit **Staff**	To provide insight into the experiences of staff working with patients with personality disorders in a secure inpatient environment	**N = 8** Interviews with Nursing staff analysed using IPA.	Four superordinate themes, each with subthemes. **The diagnosis:** Interest and identification, Assumption of early experiences, Value of a label **Language and Communication**: Finding the 'right' way to communicate, Language and reflection, **Roles on the ward:** Responsibility and control, Expectations, Risk and safety **Difficulties and challenges:** Boundaries, Perceptions and the impact of emotions, The Team	++
2	Barnao et al. (2015a) **New Zealand**	Two medium secure wards and an open rehab ward **Patient**	To explore the lived experiences of a group of service users undergoing rehabilitation in a forensic hospital. To understand the key issues regarding rehabilitation from the perspective of service users to inform service development.	**N = 20** Thematic analysis of semi structured interviews with 17 male and 3 female patients all resident for at least six months within the service	Four external themes: **Person-centred approach** **Nature of relationships with staff** **Consistency of care** **Awareness of rehabilitation pathway** Three internal themes**:** **Self-evaluation** **Agency** **Coping strategies**: passive (compliance and disengagement) and active (problem-focused and emotion-focused coping)	++

#	Study, Year, Country	Setting, Sample	Aims	Design, methods	Main Findings	Quality Rating
3	Brunt & Rask (2007) **Sweden**	Maximum security forensic psychiatric hospital **Staff & Patients**	To contribute to the body of knowledge on ward atmosphere/milieu in psychiatric settings	**N = 139** N = 35 patients (12 female) N = 104 staff (39 female) Manifest content analysis of a survey	**Internal or central characteristics emanating from the ward itself**: (1) pre-conditions for inter relations; (2) Interpersonal relations; (3) order, organization and rules; (4) feeling good/feeling secure: **External influences emanating from outside the ward itself:** (1)staff—qualifications and organization; (2) treatment and pre-conditions for treatment (3) daily activities; (4) physical environment	+
4	Horberg et al. (2012) **Sweden**	Forensic Inpatient Clinic **Patient**	To describe patients' experiences of their life situation in forensic psychiatric wards, with a focus on care, experiences of care and perspectives on the components of care.	**N = 11** 6 male and 5 female patients completed interviews analysed using a Reflective Lifeworld Approach.	**non-caring care**; **pockets of good care**; **strategies;** **a struggle against resignation;** **an existence characterized by tensions;** **longing**.	+
5	Jacob & Holmes (2012) **Canada**	Medium Security Hospital **Staff**	To understand how fear influences nurse–patient interactions in a forensic psychiatric setting.	**N = 18** 13 female and 5 male staff members interviews, analysed using grounded theory	Four themes, with the theme of ***othering*** linked to the other three themes as the basic social process through which the ward functions. **Context; Nursing Care; Fear; Othering**	++
6	Kurtz & Jeffcote	Two medium secure units,	To understand the relationship between staff	**N = 25** 13 male; 12 female	Overarching Theme: 'Everything contradicts in your mind' **Experience of the Clinical Task**	+

#	Study, Year, Country	Setting, Sample	Aims	Design, methods	Main Findings	Quality Rating
	(2011) **UK**	including one Personality Disorder Unit **Staff**	members' experiences of external factors, the organisation & the wider environment and experiences resulting from the nature of the clinical task and contact with patients.	Grounded theory study of semi-structured interviews with nursing staff.	Difficulty in achieving task integration Motivation to build relationships, work through difficulty and bring about change Minimal sense of risk and anxiety at the centre **Experience of the Organisation** A distant and difficult relationship with Outside Preoccupation with Staff Relationships Feeling Unsafe	
7	Long et al. (2012) **UK**	Medium and Low secure service **Patient**	To identify service users' views of components of an effective therapeutic milieu for women in secure settings to inform future service planning	**N= 19** Thematic analysis. Two focus groups with 19 female patients. Focus group sessions were led by a service user and service user involvement worker	11 categories were identified across five themes: **Interpersonal relationships** (a) Key points of contact (b) Therapeutic relationship/trust (c) Personal qualities and attitudes of staff **Treatment programming** (a) Treatment planning (b) Motivational treatment engagement (c) Pacing and delivery of treatment (d) Emphasis on physical & mental health needs **Empowering patients** (a) Respecting individuality (b) Facilitating the patient voice **Place of safety,** **Hope**	++
8	Mason & Adler (2012) **UK**	High Security Hospital **Patient**	To consider the past experiences of therapeutic group-work and the impact/influence of the	**N = 11** Male inpatients interviewed using semi-structured protocol with	Six themes, with an interwoven theme of ***the culture of the environment*** **Motivation** **Content of group-work**	++

#	Study, Year, Country	Setting, Sample	Aims	Design, methods	Main Findings	Quality Rating
			participants' previous relationships with practitioners on their choices regarding engagement in treatment	data analysed using Interpretative Phenomenological Analysis	**Choice** **Expected outcomes** **External locus of control** **Relationships**	
9	Meehan et al. (2006) **Australia**	High Security Hospital **Patient**	To capture the views of patients on the interpersonal and contextual factors that contribute to aggressive behaviour	**N = 27** 22 male and 5 female inpatients. Content analysis of five audiotaped focus groups	Five themes of factors that influence aggression: **The environment; Empty days; Staff interactions; Medication issues; Personal characteristics of the patients themselves:** **Effective management strategies:** **Early Intervention**: Dealing with aggressive patients; Activities to relieve boredom; Patient Control; Staff attitudes	+
10	Millar (2011) **UK**	Medium Secure PD unit **Staff**	To develop an explanatory model for staff working in secure units for women diagnosed with personality disorder	**N = 11** Staff members completed a semi structured interview, analysed using grounded theory	Developed an explanatory model incorporating the five identified themes and accompanying subthemes. **Balancing Tensions**: Negotiating service factors; Making links with the external world; Managing emotional impact of work **Secure Base**: Creating a homely environment; Recovery culture and allegiance; Working as a team **Therapeutic Relationship**: Way of being; Treating service-user as a whole person; Being alert **Initiating recovery**; Service-user inputting into their recovery; Timing; Working alongside **Nurturing Recovery:** Future orientation; Enabling and empowering; Doing it safely; Breaking institutionalisation	+
11	Nijdam-Jones et al. (2015) **Canada**	Forensic Psychiatric Hospital **Patient**	To understand the qualities of the service in a forensic hospital that were identified as being important and	**N = 30** 24 males and 6 female patients. Thematic analysis of semi-	Five themes identified (1) **involvement in programmes**; (2) **belief in rules and social norms**; (3) **attachment to supportive individuals**; (4) **commitment to work-related activities**; (5) **length of stay in**	+

#	Study, Year, Country	Setting, Sample	Aims	Design, methods	Main Findings	Quality Rating
			meaningful to recovery and to investigate if social bonding theory was a useful framework	structured interviews	**hospital**. *Themes 1-4 linked to social bonding theory (Hirschi, 2002)*	
12	Olsson et al. (2014) **Sweden**	Maximum security forensic psychiatric hospital **Staff**	To describe forensic nursing staffs' perceptions and experiences of forensic psychiatric patients turning towards recovery	**N = 13** 6 female and 7 male staff purposively sampled, semi-structured interviews analysed using interpretive description approach	Overall theme of **Promoting a turning Point**: Three subthemes: **Experiencing the start of a transformation** **Being responsive and adaptable** **Working together for a salutary health care environment**	+
13	Olsson et al. (2015) **Sweden**	Maximum security forensic psychiatric hospital **Patient**	To understand forensic inpatients' perceptions of factors believed to contribute to a decreased or increased risk of violent behaviour.	**N = 13** 10 male and 2 female (1 unidentified) inpatients completed semi structured interviews which were analysed using an interpretive description approach	Three themes identified each with three subthemes. 1) **staff's attitudes and actions**: Availability of psychiatric nurses; Being met with respect or nonchalance; Patients' perception of staff´s ability to manage conflicts 2) **patients' insight and actions**: Being insightful and managing the situation; Dealing with aggression; Attending to signs of warnings 3) **Interactions in the health care environment**: Experiences of the physical environment; Being co-creator of the psychological climate; Sensing manifestations of power	++
14	Rask & Aberg (2002) **Sweden**	Data collected from five psychiatric hospitals	To investigate forensic nurses' perspectives of how nursing care could contribute to improved care,	**N= 246** Mixed methods study using a questionnaire with a sample of 246	Four categories were identified with ten sub categories. **Humanistic basis in nursing care**: (a) Basis of nurse–patient interaction; (b)The view of the patient' **Organisation of care** (a) nursing care oriented organisation; (b)	+

#	Study, Year, Country	Setting, Sample	Aims	Design, methods	Main Findings	Quality Rating
		Staff	and which knowledge they regarded as necessary in order to meet demands	forensic (171 male) nursing staff. Analysed using content analysis	clinical supervision (c) Personal and professional network **The nurses' need for knowledge**: (a) Further education with focus on nursing care-specific issues (b) Knowledge about treatment modalities (c) Documentation **Essence of the nurses' work**: (a) Create meaning in daily life; (b) Nurses personal recourses and tacit knowledge	
15	Sainsbury et al. (2004) **UK**	Personality Disorder Directorate of High Security Hospital, **Patient**	To identify the aspects of an inpatient forensic Personality Disorder Directorate that influence the patient's motivation to engage in treatment.	**N = 6** Semi structured interviews with male inpatients analysed using grounded theory	Seven dimensional themes: **Support**: encouragement to engage in treatment; encouragement to remain in treatment; help with difficulties; feedback **Treatment**: waiting for treatment; relevance of assessment process; coaxing it out safely (the therapist's approach); preparation for and support during treatment; treatment content; exposing vulnerabilities **Safety**: Practical methods; psychological methods **External belief** **Belonging** **Internal Motivation** **Therapeutic relationship**	+
16	Tapp et al. (2013) **UK**	High Security hospital **Patient**	To explore perceptions of experiences in high security that had helped or hindered progress to discharge	**N=12** Thematic analysis. Interviews with 12 male patients close to discharge.	Eight Themes identified: **Temporary suspension of responsibility; Collaboration in care; Learning from others; Talking therapies; Supportive alliances; Living in a non-toxic milieu; Medical treatments; Opportunities for work**	++

#	Study, Year, Country	Setting, Sample	Aims	Design, methods	Main Findings	Quality Rating
17	Tema et al. (2011) **South Africa**	Forensic ward **Staff**	To explore and describe psychiatric nurses' lived experience of hostile behaviour by patients in a forensic ward, and make recommendations for nurse managers to empower psychiatric nurses in the forensic ward.	**N=9** 7 male and 2 female staff interviews with data analysed using Tesch's open coding method	Five themes identified: **Challenges in therapeutic relationships with patients:** ineffective communication; unpredictable behaviour; frustrated aspiration **Fear related to threats from the patients:** Verbal aggression, physical aggression **Disempowerment related to lack of recognition;** lack of sufficient knowledge and skills; Shortage of male nurses; Lack of support by management **Emotional and physical distress:** **Defence and coping mechanisms to maintain mental health:** Suppression; Rationalization; displacement; use of cigarettes/alcohol	+
18	To et al. (2015) **Belgium**	Eight Medium Secure wards, two Correctional Institutions **Patient**	To understand how mentally ill offenders, experience their admission and treatment. To understand the differences in service users' experiences of medium-secure forensic institutions versus correctional institutions	**N=17** 16 males and 1 female participated with 13 from mental health and 4 from correctional settings. Semi-structured interviews analysed using Thematic Analysis	Seven themes of the participants' experiences in treatment settings: **The feeling of lacking control,** **The pressure to perform,** **Their label of interned Mentally Ill Offender (MIO)** **The feeling of responsibility and trust** **Privacy** **Staff** **Living with other MIOs.**	+
19	Wilmott &	High Security	To explore the views of	**N= 12**	Themes relevant to social climate were grouped under	+

#	Study, Year, Country	Setting, Sample	Aims	Design, methods	Main Findings	Quality Rating
	McMurran (2013) **UK**	hospital **Patient**	patients with a diagnosis of personality disorder on the process of change during treatment	Thematic analysis. Interviews with 12 male patients, all of whom were identified as having made progress in therapy	superordinate themes of **the process of change**: **Self**: staff members giving accurate feedback on participants' behaviour, demonstrating trust in them and showing care and a non-judgemental attitude. **Other people**: Other people listening to them, being reliable, helping with problem solving, self-disclosure and demonstrating trust. **The future**: talking about the future.	
20	Wright et al. (2014) **UK**	High Security Hospital **Staff & Patient**	This study aimed to identify nursing staff and patients attitudes to the management of violence and aggression within a high security hospital	**N =18** 10 staff (7 male, 3 female) and 8 male inpatients completed semi-structured interviews, analysed using thematic analysis	Seven themes identified, with staff and patient accounts in each theme: **The establishment** **Relationships** **Gender** **The construction of difference;** **Medication** **Environmental stimuli** **Identity**	+

Summary Table (number of studies)

Setting:
High security hospitals (9)
medium secure units (5)
Low & Medium security (2)
unclear (4)
Personality disorder specific service (4)

Patient Participants (13):
Male only (5)
Female only (1)
Mixed gender (7)

Staff Participants (9):
Mixed gender (7|)
Gender not reported (2)

Themes	Definition
Challenging of Difficulties	Mechanisms through which patients receive feedback and are challenged on their behaviour
Clarity of ward ethos	The shared understanding of how the ward approaches the task of care and treatment.
Connectedness to Community	The means through which contact with the outside world (family, friends, community) is facilitated
Containing	The nature of the ward as containing of difficult emotional experience and as a space where difficult experiences can be understood
Empowerment	The extent to which patients feel empowered and have a sense of personal agency
External environment Factors	The systemic factors that can impact on the functioning of the ward.
Formal Treatment*	Availability of interventions to facilitate personal development
Gender	The extent to which male and female voices are heard on the ward
Involving	Patients are involved in the running of the ward and feel part of the ward
Mutual support*	The nature of the relationship between patients on the ward and opportunities for mutual support
Occupation	The provision of meaningful and purposeful activity
Organisational Structure	The structure of the staff team and the available mechanisms for staff support The procedures and formal structures of how the ward runs
Patient Motivation	The internal motivation of the patient
Person-Centred Care	The extent to which care in seen as collaborative and holistic
Physical Environment	The nature of the ward physical environment and the extent to which it is experienced as therapeutic and comfortable
Safety	The experience of personal safety on the ward
Secure base*	The role of the ward as a secure base, a place where patients are accepted
Staff control	The means through which staff exercise control in the ward environment The extent of staff control behaviours.
Staff Therapeutic Orientation	The level of focus of staff members on their caring role
Therapeutic relationships*	The extent and nature of staff-patient relationships
Tolerance of Diversity*	The ward respects difference
Validation	Actions that affirm the individuality of the patient and acknowledge their personal experiences.

Table 3: Final themes following literature review

*indicates change from the *a priori* framework

Table 4: Themes identified for each study

Themes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**#**
Challenging of Difficulties															x	x			x		**3**
Clarity of ward ethos	x	x				x	x			x									x		**6**
Connectedness to Community										x	x			x		x					**4**
Containing															x						**1**
Empowerment		x		x			x	x		x				x		x		x		x	**9**
External environment Factors						x								x							**2**
Formal Treatment*		x	x				x	x			x		x		x	x					**8**
Gender																				x	**1**
Involving			x	x						x			x		x						**5**
Mutual support*			x					x	x		x	x	x		x	x		x	x		**10**
Occupation			x	x					x		x			x		x				x	**7**
Organisational Structure	x		x	x		x				x	x	x	x	x			x			x	**11**
Patient Motivation		x		x			x	x		x	x		x		x			x			**9**
Person-Centred Care		x					x			x						x					**4**
Physical Environment			x		x				x	x			x					x			**5**
Safety	x		x		x	x	x		x	x			x		x	x	x				**11**
Secure base*										x											**1**
Staff control	x			x					x	x			x				x			x	**7**
Staff Therapeutic Orientation	x	x	x	x	x	x	x		x	x		x	x	x	x		x	x		x	**16**
Therapeutic relationships*	x	x	x	x			x	x	x	x	x	x	x	x	x	x		x	x	x	**17**
Tolerance of Diversity*							x														**1**
Validation	x	x		x	x	x								x							**6**

3.2.Conceptual model of social climate from synthesis

To develop a conceptual model the framework was examined for linkages across themes and across studies (Carroll et al., 2011). This led to an initial grouping into factors that appeared to occur at a systemic/cultural level, staff factors, patient characteristics and shared factors (Appendix E). The conceptual model that emerged from the data contained five different areas relevant to social climate: the system, the staff team, the patients, the ward (the shared space) and the physical environment (Figure 4). The system, staff, patient and ward level factors were linked through the processes of the *secure base*, the *therapeutic relationship*, and *care and treatment orientation*. The environmental factors, the *physical environment* and availability of suitable interventions, including *therapies* and *meaningful activity* are more concrete, though facilitated by wider systemic factors such as staff training and patient motivation (Brunt & Rask, 2007; Long et al., 2012; Sainsbury et al., 2004; Tapp et al., 2013). The model aims to describe both the facets of social climate of forensic inpatient settings, as well as the wider factors that operate on the social climate.

The three processes of *secure base*, *therapeutic relationship* and *care and treatment orientation* as well as the four *ward level* factors are seen as the core of social climate in the model. Ward level factors include *involvement, consistency, safety* and *mutual support;* the social and emotional experiences of the ward (Schalast et al., 2008). These dimensional constructs are open to influence by staff and patient characteristics. Hence, the shared ward environment is contingent on the functioning of the wider model factors, including the staff team and the patient group (Hörberg, Sjögren, & Dahlberg, 2012; Olsson, Strand, Asplund, & Kristiansen, 2014).

The three processes are dynamic and the nature of each of the processes is seen as an aspect of the social climate of the ward. The *secure base,* can be seen as the necessary setting conditions from which the social climate is created. The extent to which the ward functions as

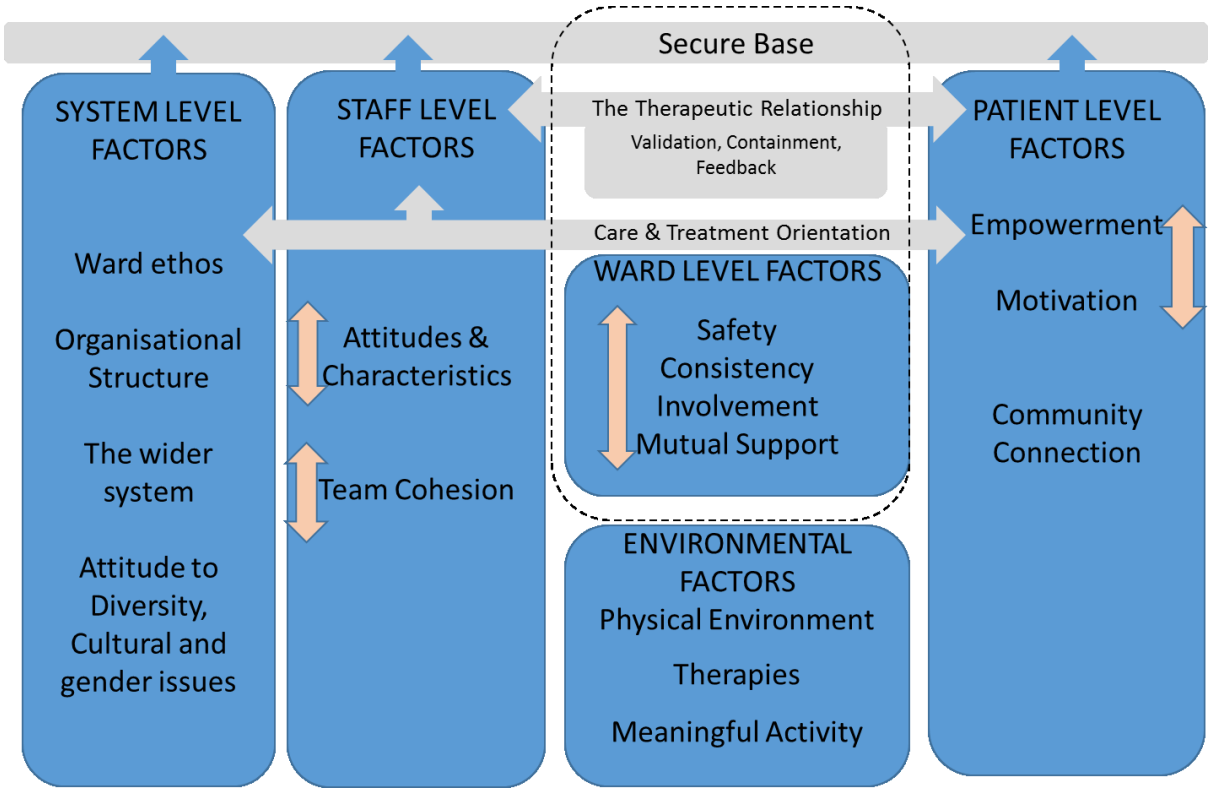
a secure base is related to the functioning of the staff and patients as well as to the functioning of the system. The *care and treatment orientation* is impacted by systemic factors, in particular the extent of focus on security and risk management, and the extent of focus on recovery oriented approaches. These two approaches are not necessarily oppositional, though they can cause dilemmas for staff in both the therapeutic relationship and approach to care (Barnao et al., 2015a; Millar, 2011). The therapeutic relationship is related to the care and treatment orientation of the service, but is also dependent on staff and patient characteristics. It is separated from the ward level factors in the model as the relationship is understood as an individual experience for the patient. The model suggests that aspects of the climate can be impacted by the wider factors. For example, the care and treatment orientation of a ward will impact on how care is delivered and experienced and so influence the sense of safety, involvement and consistency for patients on the ward.

3.3.System Level Factors

3.3.1. Ward Ethos

Ward ethos, described in six papers, was seen as related to the staff team's approach to care and treatment, though this was seen as determined at an organisational level. Ethos is related to the ward culture with a treatment orientated culture identified as a factor that differentiated mental health settings from prison (Willmot & McMurran, 2013). The lack of a shared model was identified as a source of frustration by patients due to this causing a lack of consistency in the staff approach (Barnao et al., 2015a). Patients emphasised that well planned treatment and discharge planning were important, alongside consistent staffing numbers (Long et al., 2012). Managerial support was seen as central to the development of recovery focused care (Millar, 2011), with a lack of clarity between recovery and risk management approaches at a management level seen to impact on staff members' task integration (Kurtz & Jeffcote, 2011).

Ward ethos is linked to other areas of the model, and in particular can be seen as related to team cohesion and consistency.



(- - - represents experienced social climate, ↕ defines dimensional constructs, ▭ denotes processes)

Figure 4: Conceptual Model of Social Climate

3.3.2. Organisational structure

Organisational structure was identified in 11 papers and refers to ward procedures and staff supports in the functioning of the ward. This theme encompasses support structures including clinical supervision, space for reflection and training and development opportunities (Millar, 2011; Rask & Aberg, 2002; Tema, Poggenpoel, & Myburgh, 2011). Having the right language to reflect, was identified as important (Abel, 2012; Millar, 2011). A flat organisational structure and knowledge of role are potential means through which the system acts to contain staff (Abel, 2012; Rask & Aberg, 2002). The structures and procedures of the ward link to the process of *secure base*, creating a structured institutional environment (Jacob

& Holmes, 2011; Wright et al., 2014). A lack of organisational support and acknowledgment was reported to lead to difficulties in staff relationships, particularly between different professional groups, and low levels of containment (Abel, 2012; Kurtz & Jeffcote, 2011; Tema et al., 2011). Patients experience the *organisational structure* through rules and regulations, which can be experienced as disempowering (To, Vanheule, De Smet, & Vandevelde, 2015) and dehumanising (Meehan, McIntosh, & Bergen, 2006).

3.3.3. The wider system

The wider system, described in two papers, accounted for systemic factors that directly influence ward functioning based on the framework theme of *External Environment Factors*. The context external to the forensic ward could be seen as hostile and distant (Kurtz & Jeffcote, 2011), though external organisations were also identified as potential sources of support in planning discharge and maintaining family contact (Rask & Aberg, 2002). The wider system was seen to influence climate through both actions to interfere in ward functioning (for example moving patients or resources), external monitoring and the threat of enquiries into adverse events (Kurtz & Jeffcote, 2011). Further to this, the legal context was seen as part of the systemic factors as, for example; legal orders enforcing an indeterminate stay in hospital could reduce motivation and lead to hopelessness (Nijdam-Jones et al., 2015; To et al., 2015). Education and training of healthcare staff was also identified within this theme (Rask & Aberg, 2002).

3.3.4. Attitude to diversity, cultural and gender issues

This theme contains *gender* (1 paper) and *tolerance of diversity* (1 paper). Gender was described as the value of having a female perspective in male dominated spaces (Wright et al., 2014) suggesting that traditional views of male staff as protective and authoritative and female staff as maternal are prominent on forensic mental health wards (Jacob & Holmes, 2011). Gender and diversity appeared to have a wider role than described in relation to the

staff mix on feelings of safety and in suggestions that the need for control in forensic psychiatric nursing leads to a "masculization" of staff (Jacob & Holmes, 2011; Tema et al., 2011). Papers based on female only units described the value of culturally competent services that account for the needs of their client group (Long et al., 2012; Millar, 2011).

3.4.Staff level factors

3.4.1. Staff attitudes and characteristics

Staff attitudes and characteristics was defined from the framework theme of *staff therapeutic orientation*, identified in 16 papers. Staff attitudes can be understood on a continuum with some attitudes promoting a positive social climate and some negatively impacting social climate (Olsson, Audulv, Strand, & Kristiansen, 2015). For example, Millar's (2011) description of a "human approach" to care contrasts to the "non-caring care" and "security oriented care" identified in some papers (Hörberg et al., 2012; Jacob & Holmes, 2011). This theme also illustrates the difficulty in defining a "good social climate" as aspects of care and treatment seen as useful by staff (e.g. psychiatric diagnoses; Abel, 2012) may be seen negatively by patients (Barnao et al., 2015a).

The attitude and characteristics of staff were seen as the foundation of the therapeutic relationship (Brunt & Rask, 2007; Millar, 2011) and also influence the care and treatment orientation. Patients valued staff characteristics of consistency and respect (Barnao et al., 2015a); listening skills and empathy (Long et al., 2012); and having belief in the patient (Sainsbury et al., 2004). Negative staff characteristics included being seen as patronising and cynical (To et al., 2015); holding superior attitudes, being inflexible and lacking in empathy (Meehan et al., 2006). Staff characteristics were also relevant to self-care. Harmful processes to manage the impact of the work included suppression and displacement of emotions (Tema et al., 2011) suggesting the value of system level factors and team cohesion in promoting positive attitudes and coping strategies.

3.4.2. Team Cohesion

The factor of team cohesion was described in six papers within the framework theme of *organisational structure*. Team cohesion links to the process of the *secure base* through impacting on staff feelings of emotional safety (Kurtz & Jeffcote, 2011; Olsson et al., 2014). Conflict was identified between professional groups in some papers (Abel, 2012; Kurtz & Jeffcote, 2011), with effectiveness of team working seen to directly impact on the quality of care (Olsson et al., 2014; Rask & Aberg, 2002).

3.5. Patient Level Factors

3.5.1. Empowerment

Empowerment, identified in nine papers, represents the extent to which patients experience a sense of agency and are given opportunities to make decisions. Empowerment was identified as a valued aspect of the treatment environment (Barnao et al., 2015a; Long et al., 2012; Mason & Adler, 2012). However, several papers described a lack of agency, most notably Hörberg and colleagues (2012) description of forensic inpatient care as "a struggle against resignation". A lack of control and a lack of rights were salient aspects of the patient experience (Barnao et al., 2015a; Hörberg et al., 2012; Mason & Adler, 2012) with patients feeling treated in a childlike way (To et al., 2015; Wright et al., 2014). However, while this external control was generally conceptualised as negative, one paper reported that patients valued a temporary lack of autonomy, due to the freedom from responsibility it offered (Tapp et al., 2013). Of note, studies based in high security solely identified with experiences of a lack of empowerment.

Achieving autonomy was seen as a goal for patients and was generally defined as increased responsibility, respect for individuality and involvement in care and treatment plan (Barnao et al., 2015a; Long et al., 2012). Staff perspectives highlighted a desire to empower patients in a structured way, gradually increasing autonomy alongside increased trust (Millar, 2011; Rask

& Aberg, 2002). This demonstrates the links between empowerment and the processes of care and treatment orientation and the therapeutic relationship.

3.5.2. Motivation

Patient *motivation*, reported in nine papers, was in part defined by a desire for freedom from the system of forensic care (Hörberg et al., 2012; Sainsbury et al., 2004). Eight of the studies identifying motivation were patient based. Some accounts of patient motivation indicated patients would do what is necessary to achieve discharge (Barnao et al., 2015a). Uncertainty about length of stay in hospital tended to reduce motivation (Nijdam-Jones et al., 2015; To et al., 2015). However, encouragement, validation, acknowledgement of effort and hope for the future were also identified as important interpersonal factors that increased motivation towards recovery and engagement in treatment (Long et al., 2012; Mason & Adler, 2012; Millar, 2011). The sole staff based study to identify motivation as a theme (Millar, 2002), described motivation in terms of how the timing of offering of interventions should be based on recognition of the patient needs.

3.5.3. Community Connection

Community connection, reported in four papers, encompasses contact with family members, carers and the wider community. For patients, family support was a source of motivation and a key factor in recovery (Nijdam-Jones et al., 2015; Sainsbury et al., 2004; Tapp et al., 2013). A holistic view of treatment was linked to building community or family supports, and the importance of family knowledge of the patient and role in post-discharge support was recognised (Barnao et al., 2015a; Nijdam-Jones et al., 2015; Rask & Aberg, 2002). This theme area can be seen to be distant form influencing the shared social climate though can be seen to operate on other aspects of the model.

3.6.Environmental factors

3.6.1. Therapies

Therapies, from the theme of *formal treatment* was described in eight papers. Medication and psychological therapies were the most commonly cited treatments. Medication was identified as a means to manage symptoms of mental illness and regain self-control (Tapp et al., 2013). Psychological therapies, including group and individual interventions, were seen as a way to develop new ways of coping (Nijdam-Jones et al., 2015), though they could also lead to patients feeling vulnerable (Mason & Adler, 2012; Sainsbury et al., 2004). Patients highlighted a preference for an individualised approach to treatment rather than being placed into "one-size fits all" programmes (Barnao et al., 2015a; Long et al., 2012).

3.6.2. Meaningful Activity

Meaningful activity, reported in seven papers, describes the framework theme of *occupation* understood in terms of personally meaningful activity (Kielhofner, 2002). Patients described their interests being supported as important, linking to a person centred treatment approach (Barnao et al., 2015a). Boredom and a lack of available activities were identified as a negative aspect of forensic mental health settings (Meehan et al., 2006; Wright et al., 2014). Meaningful occupation provided a route to autonomy, a source of personal meaning and opportunities for social interaction (Nijdam-Jones et al., 2015; Rask & Aberg, 2002; Tapp et al., 2013).

3.6.3. Physical Environment

The physical environment was identified in five papers. Privacy and the availability of personal space were significant aspects of the physical environment for patients (Brunt & Rask, 2007; Meehan et al., 2006; To et al., 2015). Patients expressed a preference for less 'sterile' environments (Long et al., 2012; Olsson et al., 2015). For staff, visibility and

practical safety features were the sole aspect of the physical environment identified (Jacob & Holmes, 2011).

3.7.Social Climate Factors

3.7.1. Safety

Safety was identified in 11 papers and could be seen as an outcome of other aspects of the social climate (Brunt & Rask, 2007). Staff were seen as responsible for safety, which could lead to dilemmas in providing care (Abel, 2012). Staff actions to maintain safety varied from valuing fear and alertness (Jacob & Holmes, 2011; Millar, 2011) to a sense of physical safety supported by downplaying incidents of violence (Kurtz & Jeffcote, 2011). Violence and aggression could have a negative impact on the therapeutic relationship, leading to mistrust, fear and anxiety in staff members (Tema et al., 2011). Patients also identified a need to be alert to both their own and other patients 'warning signs' in order to maintain safety (Olsson et al., 2015). For patients, safety was identified both in terms of safety from other people but also in terms of safety from the self (Long et al., 2012). Patients identified the role of procedures, de-escalation and clear boundaries in maintaining a settled environment (Tapp et al., 2013).

3.7.2. Consistency

Consistency was identified in four accounts across a range of framework themes including *organisational structure*, *therapeutic relationships*, and *team cohesion*. Consistency was seen at an individual level as 'remaining the same' (Abel, 2012) and at a ward level as consistency of approach and implementation of rules (Jacob & Holmes, 2011; Long et al., 2012). For patients, inconsistency in approaches to care and a lack of follow though were identified as frustrations, while consistency provided a sense of security and predictability (Barnao et al., 2015a).

3.7.3. Involvement

Involvement, identified in four papers, refers to the patients' experience of being included on the ward. The papers describing *involvement* varied from patients opting out of the shared environment (Hörberg et al., 2012), to patients identifying a sense of belonging through being granted responsibility or through experiences of influencing the social climate (Olsson et al., 2015; Sainsbury et al., 2004). *Involvement* was perhaps ideally described in participant descriptions of creating a "homely" normalised environment on a medium secure ward for women (Long et al., 2012).

3.7.4. Mutual Support

Mutual support amongst patients, described in ten papers, could generate optimism in the staff team and help maintain a tolerant atmosphere (Meehan et al., 2006; Olsson et al., 2015; Olsson et al., 2014). Supportive mutual relationships could also be a source of motivation, providing learning experiences and opportunities for personal growth (Mason & Adler, 2012; Sainsbury et al., 2004; Tapp et al., 2013). However, fellow patients could also be difficult and dangerous, and a source of stress in the ward environment (Meehan et al., 2006; Olsson et al., 2015; To et al., 2015).

3.7.5. Secure Base

The *secure base* is described in Millar's (2011) model of applying a recovery approach with women in a secure personality disorder service. Within the current model, the *secure base* is seen as an overarching feature of social climate developed through the system, staff and patient domains. Through the *secure base*, staff support structures, team cohesion, a shared culture and ethos and patient empowerment can contribute to the ward being identified as a place where staff can promote rehabilitation and recovery, and where patients can develop skills and work through difficulties. This containing function of the *secure base* is consistent

with both milieu therapy and therapeutic community models of care (Gunderson, 1978; Haigh, 2013).

3.7.6. Therapeutic relationship

The *therapeutic relationship* between staff and patients, identified in 17 papers, was the most commonly identified theme in the review. 'Good' therapeutic relationships are a central aspect of a positive social climate, from both patient and staff perspectives. Aspects of the therapeutic relationship seen as important included; communication (Abel, 2012; Long et al., 2012), boundaries (Abel, 2012), trust (Barnao et al., 2015a; Long et al., 2012; Mason & Adler, 2012; To et al., 2015; Willmot & McMurran, 2013), respect (Barnao et al., 2015a; Brunt & Rask, 2007), containment (Sainsbury et al., 2004), empathy (Tapp et al., 2013) and validation (Hörberg et al., 2012; Jacob & Holmes, 2011). This links the framework themes of *validation* (6 papers) and *containing* (1 paper) as qualities of the *therapeutic relationship*.

Staff interest and encouragement was seen to support recovery, while nonchalance or disinterest could be disruptive to the therapeutic relationship and patient motivation (Millar, 2011; Nijdam-Jones et al., 2015; Olsson et al., 2015; Sainsbury et al., 2004). For staff, developing therapeutic relationships required the presence of supportive colleagues (Olsson et al., 2014) and skills in engaging patients (Abel, 2012; Rask & Aberg, 2002). A particular skill identified was in *challenging of difficulties* (3 papers), which was described in patient accounts as receiving corrective feedback from staff on behaviour in a supportive manner (Sainsbury et al., 2004; Willmot & McMurran, 2013). The constraints of the environment were also recognised as influencing the therapeutic relationships, in particular, the need to balance risk management and rehabilitation roles (Brunt & Rask, 2007; Jacob & Holmes, 2011).

3.7.7. Care and treatment orientation

Care and treatment orientation encompasses the themes of *staff control* (7 papers) and *Person centred care* (4 papers). *Person centred care* described the patient being part of an individualised treatment approach. This person centred approach includes having a shared understanding of treatment goals (Tapp et al., 2013) and involved patients having "care delivered in a way that was personal to them" (Long et al., 2012, p.572). Person centred care was also seen as holistic, looking beyond offending and diagnosis (Millar, 2011). The alternative to person centred care was seen as the "cookie cutter mentality" (Barnao et al., 2015a, p.1031) with staff making all decisions about care and treatment. *Staff control* could be exercised positively in relation to maintenance of safety in the ward, through setting limits and intervening at an early stage (Abel, 2012; Millar, 2011). Patients expressed frustration at the staff use of power to manage situations, through use of alarms and restraint, rather than through working alongside the patient (Olsson et al., 2015; Wright et al., 2014). Care and treatment orientation, is influenced by the *ward ethos* and impacts on other themes in the model including: *involving*, *empowerment*, and the *therapeutic relationship*.

3.8.Testing the synthesis

The final stage of the synthesis was to review the model to assess the extent to which it reflected the framework and was applicable to forensic mental health settings. All 22 framework themes were included within the model. *Challenging of difficulties*, *containing* and *validation* are subsumed within the therapeutic relationship. The care and treatment orientation contained the themes of *staff control* and *person centred care*. *Consistency* is identified as an outcome of the organisational structure and care and treatment orientation and was drawn from these themes to describe an experienced aspect of social climate.

Issues of low quality studies influencing the framework were overcome through excluding papers identified to be of inadequate quality (Carroll et al., 2012). Examining the relationship

between themes and quality ratings identified that the framework themes of *secure base, containing, external environment factors* and *gender* were solely supported by studies rated as adequate quality (+). The jurisdiction of studies is also important to consider in considering relevance of the model. The framework themes of *challenging of difficulties* and *containing,* and the model themes of *secure base* and *Attitudes to diversity, cultural and gender issues are* only supported by UK based studies. As *challenging of difficulties* and *containing* are subsumed within *therapeutic relationships* in the conceptual model these themes do not appear to unduly influence the model.

The frequency with which themes were identified within the included papers can give confidence in their relevance to the conceptual model. Though many themes were present in several papers, some aspects of the model are seen as being tentatively supported due to being present in only a few records. The framework themes of *empowerment, formal treatment, mutual support, organisational structure, safety, staff therapeutic orientation, therapeutic relationships* and *motivation* were the most commonly identified themes and are so seen as the most strongly supported parts of the model (Table 4). These themes include elements from each area of the conceptual model (Figure 4).

In contrast, *secure base* was solely described in an unpublished doctoral study (Millar, 2011). It would be prudent to consider the role of the *secure base* as tentatively supported, though conceptually it is a useful overarching theme to describe connections between themes and in understanding how wider factors influence the social climate. *Attitudes to diversity, cultural and gender issues* is only reflected in two papers (Long et al., 2012; Wright et al., 2014). However, tolerance of diversity would seem to be relevant in populations not represented in the current review, as well as for minority ethnic groups. Though there was limited support for several themes, as they were present in the reviewed studies there was no clear rationale to exclude them from the model. However, these tentatively supported areas may be best

evaluated against the wider evidence base for social climate to determine their conceptual utility.

3.8.1. Influence of service type

As compared to other environments studies in high secure settings tended to focus less on aspects of social climate associated with relational aspects of care and treatment. High secure settings solely discussed empowerment from the perspective of a lack of autonomy or responsibility. This contrasted to studies in other settings that emphasised patient involvement in their care. Ward ethos was only mentioned in one study in a high secure setting and on that occasion in contrasting the experience to the prison environment. It may be that the focus on physical and procedural security in high secure settings (Kennedy, 2002) may led to a reduced focus on the ward ethos and care and treatment focus (relational security). In line with this, discussions of staff control (the model theme of *care and treatment orientation*) in high secure settings was focused on dehumanising procedures as well as the imposition of medication as a means of behavioural control, perhaps again highlighting an emphasis on physical security. The framework theme of Feedback (*challenging of difficulties*) was solely identified in studies of high secure environments perhaps indicating the role of high security in the assessment and initial treatment of patients as they enter forensic mental health environments.

Containment (Sainsbury et al., 2004) and *service attachment* (Millar, 2011) were each identified in only one record in the review. Both studies were in personality disorder specific services which may reflect a particular relational focus of such services based on the needs of the patient group (Livesley, 2007).

3.8.2. *Influence of participant group*

Though formal treatment was identified as a theme in 8 studies, all 8 were studies containing patient participants. Only one mixed staff & patient sample (Brunt & Rask, 2007) identified formal treatments as an aspect of social climate. Similarly, occupation (*meaningful activity*) was more frequently reported in patient only, or mixed samples (n=6) as compared to staff only samples (n=1). Patient *motivation* was similarly only identified in one study that included staff, and in that instance motivation was discussed in terms of how the timing of offering of interventions should be based on recognition of the patient needs (Millar, 2011). The apparent difference in salience of these factors to patients as compared to staff in the experience of social climate may reflect differences in how the social climate is experienced.

3.8.3. *Coverage of hospital/ward types*

The identified papers cover a range of levels of security from high security (e.g. Wright et al., 2014) to open rehab wards (Barnao et al., 2015a) and the papers include both male and female patients and personality disorder specific units. However, the lack of studies examining the lived experience of patients and staff from intellectual disability services is a limitation of the model. Intellectual disability samples may identify different aspects of social climate as important and may experience greater difficulties with the forensic mental health system than other groups (Howard, Phipps, Clarbour, & Rayner, 2015). Similarly, units for individuals with neuro-behavioural difficulties are not represented. Social climate is important in these settings, where operant based responses to positive and challenging behaviours are emphasised (Alderman & Groucott, 2012), perhaps suggesting the relevance of factors unrepresented in the current review.

3.8.4. *Relationship to Quantitative studies*

The model and framework only partially cover patient characteristics linked to social climate in quantitative studies, which include mental health diagnosis, gender, antisocial

characteristics and risk status (de Vries, Brazil, Tonkin, & Bulten, 2015; Dickens, Suesse, Snyman, & Picchioni, 2014). In particular, patient mental health was not identified as a theme through the review process. This is surprising given the samples were drawn from mental health settings and mental health concerns are central to the patients' hospital placement. References to unpredictability and volatility (Meehan et al., 2006; Tema et al., 2011) may reflect the impact of fluctuations in mental health though this is not explicitly addressed in accounts. In contrast a recent thematic synthesis of the causes of aggression in mental health settings identified that patient mental health was a primary factor in aggression (Cutcliffe & Riahi, 2013).

The synthesis identified differences between levels of security, consistent with quantitative research that has found differences in social climate across levels of security (Milsom et al., 2014). Similarly, previous quantitative research has shown links between social climate and patient motivation and engagement (Long et al., 2011). Given the range of quantitative research on social climate (see Tonkin, 2015 for a review), full examination of the linkages between the proposed model of social climate and the qualitative evidence is beyond the scope of the current paper.

4. Discussion

Perhaps inspired by Coffey's (2006) identification of an absence of service user views in forensic mental health, the current review found thirteen studies describing patient experiences in forensic mental health settings, with nine studies incorporating staff accounts. All but four of the included studies had been published since 2010, indicating a recent growth in qualitative investigation of social climate similar to the recent quantitative interest reviewed by Tonkin (2015). The initial framework drew from a range of models and questionnaires, leading to a broad perspective of social climate. The utility of the *a priori* framework can be seen in its ability to accommodate the majority of the data from the

primary research studies. In the design of the current review, the decision was taken to review only one paper, if there were multiple records of the same paper. Following completion of the review, those records with multiple papers were reviewed. Re-evaluation of these papers would not have changed quality ratings or added any new themes to the synthesis.

4.1.Social Climate

Consistent with existing definitions, social climate was described as a multifactorial construct, with seven factors related to the social and emotional conditions of the ward (Schalast et al., 2008; Tonkin, 2015). The model maps onto Moos (1989) model of treatment settings with interlinked levels of physical conditions, staff, patient and system factors which influenced the social climate. These four wider domains are also described in a systemic model of violence and aggression on mental health wards (Cutcliffe & Riahi, 2013), though the emphasis in the systemic model is on factors that influence aggression, rather than the overall social climate. The model developed through the review process is consistent with factors identified as necessary for development of a caring approach in forensic mental health, highlighting the role of staff supports, such as reflective practice and staff availability (Hörberg, 2015).

The model contains elements that appear relatively diffuse and may be seen as acting only distantly on the social climate of a ward. For example, *community connection, the wider system,* and *attitude to diversity, cultural and gender issues* could be seen to act on other areas of the model such as *motivation*, *staff attitudes and characteristics* and *ward ethos* respectively. This would place these elements as quite distant from the experience of social climate and so would suggest that aspects of the model are tentatively supported. Though there was no rationale to exclude any factors in the current review, further examination of the proposed model may lead to a pruning of factors with limited support.

The specificity of the model of social climate described to forensic mental health settings remains to be evaluated. The BeHEMoTH search strategy included four non-forensic models of social climate. Four themes; *Connections to Community, Validation, Occupation and External Environment factors* were drawn solely from non-forensic models and were supported by the main review as relevant to social climate in forensic settings. Four further BeHEMoTH themes (*Tolerance of Expression, safety, staff control, challenging of difficulties* and *patient motivation*) were drawn exclusively from forensic models, and alongside the themes that emerged through the review, may represent an area of difference in the elements of social climate between forensic and general mental health settings.

The applicability of the model to prison settings also remains to be evaluated. The sample was drawn almost exclusively from hospital settings which may have a different emphasis from prison settings. In the quantitative literature there is a broad acceptance of overlap between what constitutes social climate in each setting. This is not to say that social climate is not different, rather than the same factors are relevant to both settings. For example, the EssenCES has been used with minimal changes in both hospital (Tonkin et al., 2012) and prison (Day et al., 2012) settings. Further evaluation of the evidence for social climate in prison settings could aid to further refine the model to ensure applicability across a range of settings.

The relationship between patient characteristics and social climate is complex (Dickens et al., 2014). For example, de Vries and colleagues (2015) suggest that patients with very poor experiences of safety and support in the past may attribute even low levels of support in inpatient settings as positive. Acknowledgement of the adversity that patients may have faced prior to treatment highlights the potential negative impact of a restrictive and stern treatment environment, and the need for services to be sensitive to patients' histories (Abel, 2012; Hörberg et al., 2012).

4.2.Social Climate Interventions

The need to balance security and therapy has a profound influence on the delivery of care in forensic mental health. This tension can impact on the therapeutic relationship, with the relationship building behaviours such as small talk contrasting with a need to monitor patients and enforce rules (Gildberg, Bradley, Fristed, & Hounsgaard, 2012). Failure to manage these tensions can lead to 'othering' (having difficulty seeing the patient as a person) and a lack of care (Barnao et al., 2015a; Brunt & Rask, 2007; Hörberg et al., 2012; Jacob & Holmes, 2011; Tema et al., 2011). A shared model of care and opportunities for reflective practice are recommended approaches to overcome some of the difficulties in working with forensic patients (Hörberg, 2015; Moore, 2012), and may contribute to *team cohesion* and the *secure base*. Papers in the current review linked the absence of staff support with staff burnout and displacement of difficult feelings (Kurtz & Jeffcote, 2011; Tema et al., 2011), while models of care that failed to emphasise collaborative approaches led to patients feeling disempowered (Barnao et al., 2015a). Staff training interventions were cited in the sample as a potential means to improve social climate (Rask & Aberg, 2002; Tema et al., 2011). One such intervention, involving staff training in therapeutic milieu principles demonstrated improvements in patients' perceptions of the social climate (Nesset, Rossberg, Almvik, & Friis, 2009).

The *ward ethos* may be central to the idea of consistency in care, through provision of clear therapeutic objectives (de Vries et al., 2015). Consistency is conceptually linked to the attachment understanding of the secure base (Adshead, 2002). Consistency of care can provide a safe environment that increases the patients' sense of comfort and provides the conditions for rehabilitative progress. Consistency can be increased through the staff team being predictable, rules being implemented consistently and patients receiving a consistent response from the environment. In considering a *ward ethos* that may help to generate a

positive social climate, two models appear to present a developed perspective. The Good Lives model is a strengths based model of offender rehabilitation (Ward & Brown, 2004) increasingly applied to forensic mental health settings (Barnao, Ward, & Casey, 2015b). The Good Lives model may provide a model of care that emphasises empowerment while maintaining a focus on risk management. Therapeutic community approaches have also been used in forensic personality disorder (C. Taylor, 2011) and intellectual disability services (J. Taylor & Morrissey, 2012). The therapeutic community model of care emphasises empowerment and involvement to promote a recovery focus (Haigh, 2002, 2013).

The description of *motivation* as a patient factor tallies to an extent with internal readiness factors identified by the Multifactor Offender Readiness Model (MORM; Ward, Day, Howells & Birgden, 2004). In considering how social climate and the MORM interact, one interpretation is for social climate to be subsumed into location factors as described in the MORM. However, several areas of the social climate model proposed may be of interest from a motivational standpoint. External readiness factors such as the availability of interventions and supports (either professional or fellow patients) can be seen in the social climate model themes of *therapies*, *mutual support* and *therapeutic relationships*. Ward treatment orientation and therapies informed by the MORM may positively influence social climate through empowering patients.

A therapeutic *physical environment* may include the presence of private treatment rooms, single room accommodation and clear lines of sight for staff (Cutcliffe & Riahi, 2013; Jacob & Holmes, 2011; To et al., 2015). Ward layouts that promote contact between staff and patients may offer more therapeutic environments (Eggert et al., 2014). Similarly, the presence of evidenced based therapies, and therapies staff can be a means to assess *meaningful activities* and *therapies*. In considering the environmental factors, there is a recognition that the provision of psychological and occupational therapies and meaningful

activity may, dependent on the setting, occur on the ward, or off the ward as part of the running of a larger hospital.

4.3.Issues of measurement

The fit of the model with two predominant measures of social climate, the WAS and EssenCES was evaluated (Appendix F) to assess whether the measurement of social climate matches the experience of social climate. The three factors of the EssenCES appear to cover themes identified as part of social climate in the current model. Therapeutic hold evaluates the nature of the *therapeutic relationship*. Patient cohesion and mutual support links with *mutual support*. Experienced safety maps neatly onto *safety*. This suggests the EssenCES provides an overview rather than in-depth evaluation of social climate (Tonkin, 2015). This overview may explain differences in therapeutic hold commonly found between staff and patients (de Vries et al., 2015; Long et al., 2011; Milsom et al., 2014). Patients may rate therapeutic hold lower due to experiences of a lack of control (de Vries et al., 2015), captured in the model of social climate as *involvement*, *empowerment* and *care and treatment orientation,* which are not measured by the EssenCES.

The ten factors of the WAS (see Appendix A for description of factors) cover a further range of factors including *therapies*, *meaningful activity and involvement*. However, the WAS does not differentiate *mutual support* from the *therapeutic relationship*. Several of the WAS factors appear to partially link to *care and treatment orientation* (Staff Control, Spontaneity, Autonomy, Order and Organisation, Program Clarity) consistent with findings that the WAS can differentiate units with different treatment approaches (Brunt, 2008). These WAS factors could also be understood as themes at different levels of the current model, with program clarity linking to *ward ethos*, autonomy to *empowerment* and order and organisation to system level factors.

The areas of *consistency*, *secure base* and *physical environment* are not covered by the WAS or EssenCES. This suggests that comprehensive measurement of social climate may require use of multiple measures, or alternative means to assess whether these factors are present. *Consistency* does not seem to link to any of the measures developed for mental health settings reviewed by Tonkin (2015) and so may be difficult to assess currently. In considering the *secure base* the Service Attachment Questionnaire (Goodwin, Holmes, Cochrane, & Mason, 2003) may provide a means to measure the service attachment of patients, though it does not provide a means to measure the extent to which staff feel supported by services. The extent to which the ward provides a *secure base* may be identified in part by the presence of effective clinical supervision and reflective practice (Hörberg, 2015; Yakeley & Adshead, 2013).

5. Conclusion

Social climate is a complex and multifactorial construct, which can influence aggression and engagement in rehabilitation. Given the lack of clarity about the constituent parts of social climate (Brunt & Rask, 2007; Tonkin, 2015), this review offers a useful framework taking account of the views of staff and service users. Accommodating the views of service users is particularly important given that forensic mental health patients are a marginalised and stigmatised group (Coffey, 2006). A range of organisational level factors as well as staff and patient characteristics were seen to potentially influence social climate. Altering these factors through provision of staff supports, providing a clear ward ethos and focusing on a person centred approach to care that empowers patients may be key to a therapeutic social climate. These factors may help develop the secure base and care orientation that facilitates growth and change in the patient group while maintaining staff members' ability to form beneficial therapeutic relationships with patients. However, given the number of factors identified as potentially influencing social climate, further research to examine interactions between and

within the five areas of the model, as well as evaluation of existing quantitative research, may clarify understanding of these links.

The review found that commonly used measures may not measure all aspects of the social climate, suggesting a need for an assessment approach to comprehensively evaluate social climate. The applicability of the model should be examined, both in mainstream forensic mental health settings and in specialist populations such as personality disorder, neuro-behavioural and intellectual disability settings. This could potentially be achieved through examining the impact of treatment interventions operating at different levels of the model, for example staff training interventions, reflective practice groups or changes to care and treatment orientation on the social climate.

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A: Search strategies for systematic review

1. BeHEMoTH search terms (combined with AND operator)

Behaviour	Atmosphere, Climate, milieu, environment
Health Context	((Ward or Hospital* or Inpatient or institut*) adj3 (Locked or Secure or Forensic)) or (Low secur* or Medium secur* or High secur* or Special hospital)
Exclusions	*None*
Models & Theories	model* or theor* or concept* or framework*

2. SPIDER search strategy, combined [S AND P of I] AND [D OR E OR R].

	Search String
Sample	(Patient* OR service use* OR resident OR forensic mental health) OR (staff OR nurs* OR psychiatri* OR psychologist* OR therapis*) AND ((Ward OR Hospital* OR Inpatient OR Intensive psychiatric support unit OR PICU OR Facilit* OR Institution* OR Unit OR therapeutic community) NEAR/ADJ (Locked OR Secure OR Forensic)) OR Low secur* OR Medium secur* OR High secur* OR Special hospital
Phenomenon of Interest	Atmosphere OR Climate OR milieu OR psychosocial OR social OR environment OR atmosphere conducive to recovery OR therap* OR communit* OR socioenvironmen*
Design	qualitative interview OR focus groups OR content analysis OR constant comparative method OR thematic analysis OR grounded theory OR ethnographic research OR phenomenological OR semantic analysis OR interview*
Evaluation	perception* OR patient satisfaction OR satisf* OR perspective* OR view* OR experien* OR opinion* OR belie*
Research Type	qualitative OR qualitative studies

Behemoth search – Psychinfo & MEDLINE 150216 – search String

1	(Atmosphere or Climate* or milieu or environ*).ab.	935778
2	(((Ward or Hospital* or Inpatient or institut*) adj3 (Locked or Secure or Forensic)) or ("Low secur*" or "Medium secur*" or "High secur*" or "Special hospital")).af	15776
3	model* or theor* or concept*).mp. or framework*.ab. [mp=ti, ab, ot, nm, hw, kf, px, rx, ui, an, tc, id, tm]	4650794
4	1 and 2 and 3	310
5	**remove duplicates from 4**	**283**

Searches for Main review

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to Present, **PsycINFO** 1806 to December Week 1 2015, **Embase Classic+Embase** 1947 to 2015 Week 49		
1	(((forensic adj2 mental) or patient* or resident).af. or service.mp.) adj3 use*.af. [mp=ti, ab, ot, nm, hw, kf, px, rx, ui, an, tc, id, tm, tn, dm, mf, dv, kw]	2245991
2	(staff or nurs* or psychiatri* or psychologist* or therapis*).af.	3833234
3	((Ward or Hospital* or Inpatient or Intensive psychiatric support unit or PICU or Facilit* or Institution* or Unit or therapeutic community) adj5 (Locked or Secure or Forensic)).af	21088
4	(((Low or medium or high) adj1 secur*) or Special hospital).mp. [mp=ti, ab, ot, nm, hw, kf, px, rx, ui, an, tc, id, tm, tn, dm, mf, dv, kw]	4244
5	(qualitative interview or focus groups or content analysis or constant comparative method or thematic analysis or grounded theory or ethnograp* or phenomenological or semantic analysis or interview*).mp. [mp=ti, ab, ot, nm, hw, kf, px, rx, ui, an, tc, id, tm, tn, dm, mf, dv, kw]	1051273
6	(perception* or patient satisfaction or satisf* or perspective* or view* or experience or opinion* or satisfaction or belie* or Attitudes).mp. [mp=ti, ab, ot, nm, hw, kf, px, rx, ui, an, tc, id, tm, tn, dm, mf, dv, kw	5625389
7	(qualitative or qualitative studies).mp. [mp=ti, ab, ot, nm, hw, kf, px, rx, ui, an, tc, id, tm, tn, dm, mf, dv, kw]	470002
8	(Atmosphere or Climate or milieu or psychosocial or social or environment or treatment or (conducive adj3 recovery) or therap* or communit* or socioenvironmen*).mp. [mp=ti, ab, ot, nm, hw, kf, px, rx, ui, an, tc, id, tm, tn, dm, mf, dv, kw]	17351973
9	5 or 6 or 7	6472653
10	1 or 2	5593104
11	3 or 4	24007
12	10 and 11	11989
13	8 and 12	7413
14	**9 and 13**	**3018**
15	**Remove duplicates from 15**	**2322**

HMIC – 128 January 12 2016

1	(((forensic adj2 mental) or patient* or resident).af. or service.mp.) adj3 use*.af. [mp=title, other title, abstract, heading words]	42917
2	(staff or nurs* or psychiatri* or psychologist* or therapis*).af.	93541
3	((Ward or Hospital* or Inpatient or Intensive psychiatric support unit or PICU or Facilit* or Institution* or Unit or therapeutic community) adj5 (Locked or Secure or Forensic)).af.	614
4	(((Low or medium or high) adj1 secur*) or Special hospital).mp. [mp=title, other title, abstract, heading words]	456

5	(qualitative interview or focus groups or content analysis or constant comparative method or thematic analysis or grounded theory or ethnograp* or phenomenological or semantic analysis or interview*).mp. [mp=title, other title, abstract, heading words]	20189
6	(perception* or patient satisfaction or satisf* or perspective* or view* or experience or opinion* or satisfaction or belie* or Attitudes).mp. [mp=title, other title, abstract, heading words]	68699
7	(qualitative or qualitative studies).mp. [mp=title, other title, abstract, heading words]	8220
8	(Atmosphere or Climate or milieu or psychosocial or social or environment or treatment or (conducive adj3 recovery) or therap* or communit* or socioenvironmen*).mp. [mp=title, other title, abstract, heading words]	126727
9	5 or 6 or 7	79607
10	1 or 2	120870
11	3 or 4	936
12	10 and 11	627
13	8 and 12	364
14	**9 and 13**	128

EBSCOhost search – 2182 results 06-12-2015

Psychology and Behavioral Sciences Collection (1,655)

CINAHL Plus (491)

ERIC (36)

S1	TX (qualitative interview OR "focus groups" OR "content analysis" OR "constant comparative method" OR "thematic analysis" OR "grounded theory" OR ethnograph* OR phenomenological OR "semantic analysis" OR interview*)	561294
S2	TX perception* OR "patient satisfaction" OR satisf* OR perspective* OR view* OR experien* OR opinion* OR belie*	1286935
S3	TX (qualitative OR "qualitative studies") OR SU (qualitative OR "qualitative studies")	213040
S4	S1 OR S2 OR S3	1607127
S5	TX atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment*	2574654
S6	Ward* OR Hospital* OR Inpatient* OR "Intensive psychiatric support unit" OR PICU	983300

	OR Facilit* OR Institution* OR Unit OR "therapeutic community"	
S7	TX forensic OR locked OR secure	91833
S8	TX (Patient* OR "service use*" OR resident OR "mental health" OR "mental* ill*") OR (staff OR nurs* OR psychiatri* OR psychologist* OR therapis*)	2920666
S9	(S6 AND S8) N5 S7	5513
S10	S5 AND S9	3144
S11	S4 AND S10	2182

Proquest Databases

PILOTS: Published International Literature On Traumatic Stress - 9

Applied Social Sciences Index and Abstracts (ASSIA)- 343

ProQuest Dissertations & Theses Global - 320

Social Services Abstracts - 61

Sociological Abstracts - 154

Set#	Searched for	Databases	Results
S3	((((((ward OR hospital* OR inpatient OR "intensive psychiatric support unit" OR picu OR facility OR institution* OR unit) NEAR/5 (forensic OR secure OR locked)) AND ((Patient* OR service use* OR resident OR "forensic mental health" OR "forensic psychiat*") OR (staff OR nurs* OR psychiatri* OR psychologist* OR therapis*))) OR ("low secur*" OR "medium secur*" OR "high secur*" OR "special hospital")) AND (atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment*)) AND ("qualitative interview" OR "focus groups" OR "content analysis" OR "constant comparative method" OR "thematic analysis" OR "grounded theory" OR ethnograph* OR phenomenological OR "semantic analysis" OR interview* OR perception* OR "patient satisfaction" OR satisf* OR perspective* OR view* OR experien* OR opinion* OR belie* OR qualitative OR qualitative studies)) AND peer(yes)	Applied Social Sciences Index and Abstracts (ASSIA)	334°
S4	ALL((((((ward OR hospital* OR inpatient OR "intensive psychiatric support unit" OR picu OR facility OR institution* OR unit) NEAR/5 (forensic OR secure OR locked)) AND ((Patient* OR service use* OR resident OR "forensic mental health" OR "forensic psychiat*") OR (staff OR nurs* OR psychiatri* OR psychologist* OR therapis*))) OR ("low secur*" OR "medium secur*" OR "high secur*" OR "special hospital")) AND (atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment*)) AND ("qualitative interview" OR "focus groups" OR "content analysis" OR "constant comparative method" OR "thematic analysis" OR "grounded theory" OR ethnograph* OR phenomenological OR "semantic analysis" OR interview* OR perception* OR "patient satisfaction" OR satisf* OR perspective* OR view* OR experien* OR opinion* OR belie* OR qualitative OR qualitative studies)) AND peer(yes)	PILOTS: Published International Literature On Traumatic Stress	9°
S5	ALL((((((ward OR hospital* OR inpatient OR "intensive psychiatric support unit" OR picu OR facility OR institution* OR unit) NEAR/5 (forensic OR secure OR locked)) AND ((Patient* OR service use* OR resident OR "forensic mental health" OR "forensic psychiat*") OR (staff OR nurs* OR psychiatri* OR psychologist* OR therapis*))) OR ("low	Applied Social Sciences Index and Abstracts (ASSIA)	343°

	secur*" OR "medium secur*" OR "high secur*" OR "special hospital")) AND (atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment*)) AND ("qualitative interview" OR "focus groups" OR "content analysis" OR "constant comparative method" OR "thematic analysis" OR "grounded theory" OR ethnograph* OR phenomenological OR "semantic analysis" OR interview* OR perception* OR "patient satisfaction" OR satisf* OR perspective* OR view* OR experien* OR opinion* OR belie* OR qualitative OR qualitative studies)) AND peer(yes)		
S6	ALL((((((ward OR hospital* OR inpatient OR "intensive psychiatric support unit" OR picu OR facility OR institution* OR unit) NEAR/5 (forensic OR secure OR locked)) AND ((Patient* OR service use* OR resident OR "forensic mental health" OR "forensic psychiat*") OR (staff OR nurs* OR psychiatri* OR psychologist* OR therapis*))) OR ("low secur*" OR "medium secur*" OR "high secur*" OR "special hospital")) AND (atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment*)) AND ("qualitative interview" OR "focus groups" OR "content analysis" OR "constant comparative method" OR "thematic analysis" OR "grounded theory" OR ethnograph* OR phenomenological OR "semantic analysis" OR interview* OR perception* OR "patient satisfaction" OR satisf* OR perspective* OR view* OR experien* OR opinion* OR belie* OR qualitative OR qualitative studies))	ProQuest Dissertations & Theses Global	320°
S10	ALL((((((ward OR hospital* OR inpatient OR "intensive psychiatric support unit" OR picu OR facility OR institution* OR unit) NEAR/5 (forensic OR secure OR locked)) AND ((Patient* OR service use* OR resident OR "forensic mental health" OR "forensic psychiat*") OR (staff OR nurs* OR psychiatri* OR psychologist* OR therapis*))) OR ("low secur*" OR "medium secur*" OR "high secur*" OR "special hospital")) AND (atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment*)) AND ("qualitative interview" OR "focus groups" OR "content analysis" OR "constant comparative method" OR "thematic analysis" OR "grounded theory" OR ethnograph* OR phenomenological OR "semantic analysis" OR interview* OR perception* OR "patient satisfaction" OR satisf* OR perspective* OR view* OR experien* OR opinion* OR belie* OR qualitative OR qualitative studies)) AND peer(yes)	Social Services Abstracts	61°
S12	ALL((((((ward OR hospital* OR inpatient OR "intensive psychiatric support unit" OR picu OR facility OR institution* OR unit) NEAR/5 (forensic OR secure OR locked)) AND ((Patient* OR service use* OR resident OR "forensic mental health" OR "forensic psychiat*") OR (staff OR nurs* OR psychiatri* OR psychologist* OR therapis*))) OR ("low secur*" OR "medium secur*" OR "high secur*" OR "special hospital")) AND (atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment*)) AND ("qualitative interview" OR "focus groups" OR "content analysis" OR "constant comparative	Sociological Abstracts	154°

	method" OR "thematic analysis" OR "grounded theory" OR ethnograph* OR phenomenological OR "semantic analysis" OR interview* OR perception* OR "patient satisfaction" OR satisf* OR perspective* OR view* OR experien* OR opinion* OR belie* OR qualitative OR qualitative studies))		

Cochrane Database - 71 Results January 12 2016

'*((forensic OR secur* OR criminal OR "forensic psychiat*" OR prison* OR psychiat* OR nurs* OR psycholo* OR mental*) and ("low secur*" OR "medium secur*" OR "special hospital" OR "high secure")) OR ((ward OR hospital* OR inpatient OR "intensive psychiatric support unit" OR picu OR facility OR institution* OR unit) NEAR (forensic OR secure OR locked)) and (atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment* OR treatment) in Title, Abstract, Keywords*

Open Grey Literature January 12 2016

72 – 49 entered on database - 23 were Duplicates

(((ward OR hospital* OR inpatient OR "intensive psychiatric support unit" OR picu OR facility OR institution* OR unit) NEAR/5 (forensic OR secure OR locked)) OR ("low secur*" OR "medium secur*" OR "high secur*" OR "special hospital")) AND (forensic OR secur* OR criminal OR "forensic psychiat*" OR prison* OR psychiat* OR nurs* OR psycholo* OR mental*) AND (atmosphere OR climate OR "atmosphere conducive to recovery" OR milieu OR therap* OR psychosocial OR communit* OR social OR socioenvironment* OR environment* OR treatment) lang:"en"

B: Framework for BeHeMOTH Search

WAS – Moos (Brunt, 2008; Eklund & Hanson, 2001)	**WHO (1953) Recommendations for ward atmosphere (Haigh, 2002; Brunt, 2008)**	**Haigh (2002, 2013) – Therapeutic Community Model**	**Therapeutic Community based DSPD (C Taylor, 2011)**	**Prison Social Climate Instrument (Van der Helm et al., 2011)**	**EssenCES – (Tonkin et al, 2012; Aldermann & Groucott, 2012)**	**TC and Social Milieu (J. Taylor & Morrissey, 2012)**	**Gunderson (1978) - Milieu Therapy (Oeye et al, 2009)**	**Milieu Therapy Reconceptualization – Optimal Healing Environment (Mahoney et al., 2009)**	***Framework***
Involvement - How active and energetic patients are in the program		**Inclusion**: To help patient's understand their place among others	**Roles of Responsibility** – Foster a sense of belonging			**Democratisation** - community members should share equally in the decision-making practices	**Involvement** – the patient attends to and interacts with the social environment		**Involving**
Support - How much patients help and support each other and how supportive the staff are towards the patients				**Support –** If the "support" dimension is well taken care of, group workers are responsive to the needs of the inmates, and they invest in building positive relationships	**Patient Cohesion & Mutual Support** - whether mutual support characteristic of therapeutic communities is present	**Communalism** - community functioning is characterised by the sharing of amenities and open communication between members	**Support** – giving kindness as the basis for a structure that fostered predictability and control	**Healing relationships** – the enhancement of caring, compassion, communication, empathy and social support	**Supportive**
		Psychological Containment – Feeling safe for both staff and patients	**Containment –** Through clear rules and boundaries Provide a space to explore and understand encounters with others			**Containment** Interventions to contain emotional and behavioural instability	**Containment** – meeting basic needs and providing physical care and safety		**Containing**

WAS – Moos (Brunt, 2008; Eklund & Hanson, 2001)	**WHO (1953) Recommendations for ward atmosphere (Haigh, 2002; Brunt, 2008)**	**Haigh (2002, 2013) – Therapeutic Community Model**	**Therapeutic Community based DSPD (C Taylor, 2011)**	**Prison Social Climate Instrument (Van der Helm et al., 2011)**	**EssenCES – (Tonkin et al, 2012; Aldermann & Groucott, 2012)**	**TC and Social Milieu (J. Taylor & Morrissey, 2012)**	**Gunderson (1978) - Milieu Therapy (Oeye et al, 2009)**	**Milieu Therapy Reconceptualization – Optimal Healing Environment (Mahoney et al., 2009)**	***Framework***
Spontaneity - How much the programme encourages open expression of feelings by patients and staff			**Openness** – Tolerance and honesty, regular community meetings			**Permissiveness** community members should demonstrate tolerance of a wide range of behaviours			**Tolerance of Expression**
Autonomy - How self-sufficient and independent patients are in decision making	**Assumption that the patients are trustworthy** **Patients should be assumed to retain the capacity for a considerable degree of responsibility and initiative**	**Agency –** Feel a sense of their own personal agency sand are thus responsible for their own feelings thoughts and behaviour	**Empowerment** – Empowering the community's members						**Empowerment**
Practical orientation - The extent to which patients learn practical skills and are prepared for release form the program								**Healthy lifestyles –** Enhancing health habits including diet exercise, relaxation and balance	**Focus on developing Lifeskills**
Personal	**Preservation of the**		**Provision of**	**Growth –**		**Integration**		**Personal Wholeness**	**Personal development**

WAS – Moos (Brunt, 2008; Eklund & Hanson, 2001)	WHO (1953) Recommendations for ward atmosphere (Haigh, 2002; Brunt, 2008)	Haigh (2002, 2013) – Therapeutic Community Model	Therapeutic Community based DSPD (C Taylor, 2011)	Prison Social Climate Instrument (Van der Helm et al., 2011)	EssenCES – (Tonkin et al, 2012; Aldermann & Groucott, 2012)	TC and Social Milieu (J. Taylor & Morrissey, 2012)	Gunderson (1978) - Milieu Therapy (Oeye et al, 2009)	Milieu Therapy Reconceptualization – Optimal Healing Environment (Mahoney et al., 2009)	*Framework*
problem Orientation - The extent to which patients seek to understand their feelings and personal problems	**patient's individuality –** Encourage self-respect and a sense of identity		**therapies –** Including psychotropic medication and individual and group therapies	pertains to facilitation of leaning and preparation for a meaningful life both within and outside prison.		**and synthesis** Interventions designed to address core pathology and promote integration of self **Exploration and change** Cognitive, interpersonal and psychodynamic interventions		– relates to the provision of holistic care for self and others, to enhance the integration of body mind spirit and energy	**opportunities**
Anger and Aggression - The extent to which patients argue with other patients and staff, become openly angry, display other aggressive behaviour					**Experienced Safety -** the level of perceived tension and threat of aggression or violence	**Safety** Interventions to promote safety of self and others			**Safety**
Order and Organization	**Interrelationships** between director,		**Staff support** - providing				**Structure** – a predictable	**Collaborative Medicine** – A	**Organisational Structure**

WAS – Moos (Brunt, 2008; Eklund & Hanson, 2001)	**WHO (1953) Recommendations for ward atmosphere (Haigh, 2002; Brunt, 2008)**	**Haigh (2002, 2013) – Therapeutic Community Model**	**Therapeutic Community based DSPD (C Taylor, 2011)**	**Prison Social Climate Instrument (Van der Helm et al., 2011)**	**EssenCES – (Tonkin et al, 2012; Aldermann & Groucott, 2012)**	**TC and Social Milieu (J. Taylor & Morrissey, 2012)**	**Gunderson (1978) - Milieu Therapy (Oeye et al, 2009)**	**Milieu Therapy Reconceptualization – Optimal Healing Environment (Mahoney et al., 2009)**	***Framework***
- How important order and organisation are in the program	psychiatric staff, nursing staff and patients, including patient to patient relationships		space for multidisciplinary staff support, education and supervision				organisation of roles and responsibilities	platform for integration of conventional, complementary, traditional and alternative therapies. Strong collaborative interdisciplinary teams and patient centred care	
Program Clarity -- The extent to which patients know what to expect in their day-to-day routine and the explicitness of program rules and procedure	**Good behaviour must be encouraged**	**Communication -**	**Communication** – Fostering communication and a common understanding					**Healing Places** – Leadership, mission, culture, teamwork, technology, evaluation, and service that are in alignment with intentional healing.	**Clarity of ward ethos**
Staff Control – The extent to			**Tight security –** To ensure safety	**Repression –** Features of "repression" are		**Control and regulation** Behavioural,			**Staff control**

WAS – Moos (Brunt, 2008; Eklund & Hanson, 2001)	**WHO (1953) Recommendations for ward atmosphere (Haigh, 2002; Brunt, 2008)**	**Haigh (2002, 2013) – Therapeutic Community Model**	**Therapeutic Community based DSPD (C Taylor, 2011)**	**Prison Social Climate Instrument (Van der Helm et al., 2011)**	**EssenCES – (Tonkin et al, 2012; Aldermann & Groucott, 2012)**	**TC and Social Milieu (J. Taylor & Morrissey, 2012)**	**Gunderson (1978) - Milieu Therapy (Oeye et al, 2009)**	**Milieu Therapy Reconceptualization – Optimal Healing Environment (Mahoney et al., 2009)**	***Framework***
which staff use measures to keep patients under necessary controls.				harsh and unfair control, a weak organizational structure, no flexibility, incremental rules, little privacy, extreme boredom, and (frequent) humiliation of inmates.		cognitive and pharmacological interventions to enhance self-regulation			
			Senior peers (patients) provide **feedback** to new members			**Reality confrontation – Patients should be confronted with interpretations of their behaviour based on the experience of their behaviour by other community members.**			**Challenging of Difficulties**
				Atmosphere – The "atmosphere" dimension				**Healing Spaces** – Nature, light, colour, air, fine arts,	**Physical Environment**

WAS – Moos (Brunt, 2008; Eklund & Hanson, 2001)	**WHO (1953) Recommendations for ward atmosphere (Haigh, 2002; Brunt, 2008)**	**Haigh (2002, 2013) – Therapeutic Community Model**	**Therapeutic Community based DSPD (C Taylor, 2011)**	**Prison Social Climate Instrument (Van der Helm et al., 2011)**	**EssenCES – (Tonkin et al, 2012; Aldermann & Groucott, 2012)**	**TC and Social Milieu (J. Taylor & Morrissey, 2012)**	**Gunderson (1978) - Milieu Therapy (Oeye et al, 2009)**	**Milieu Therapy Reconceptualization – Optimal Healing Environment (Mahoney et al., 2009)**	***Framework***
				concerns the degree to which the physical as well as the social environment foster feelings of safety and trust among inmates.				architecture, aroma, music, and design of the physical environment.	
	Encourage visits from family members								**Connectedness to Community**
							Validation – Affirming the patients individuality		**Validation**
	Activity - the need for activity and a proper working day for all patients								**Occupation**
		Attachment – The experience which makes people feel they belong	**Promoting attachment** – Through provision of a secure base						**Service Attachment**
			Shared responsibilities for		**Therapeutic Hold** - the extent to			**Awareness and Intention –** conscious commitment of the	**Staff Therapeutic Orientation**

WAS – Moos (Brunt, 2008; Eklund & Hanson, 2001)	WHO (1953) Recommendations for ward atmosphere (Haigh, 2002; Brunt, 2008)	Haigh (2002, 2013) – Therapeutic Community Model	Therapeutic Community based DSPD (C Taylor, 2011)	Prison Social Climate Instrument (Van der Helm et al., 2011)	EssenCES – (Tonkin et al, 2012; Aldermann & Groucott, 2012)	TC and Social Milieu (J. Taylor & Morrissey, 2012)	Gunderson (1978) - Milieu Therapy (Oeye et al, 2009)	Milieu Therapy Reconceptualization – Optimal Healing Environment (Mahoney et al., 2009)	*Framework*
			therapeutic work		which the climate is seen as supportive of patients' therapeutic needs			clinician to be a healer and to know about the biological – psychological – social – spiritual factors related to the individual and belief in the individual patients capacity to heal	
			Patient commitment – Commitment to process of ongoing assessment and treatment						**Patient Motivation**
								External environment – Focus on the system rather than focus on the ward level	**External environment Factors**

Definition of Concepts derived from initial Framework

Concepts	Definition
Involving (5)	Patients are involved in the running of the ward and feel part of the ward
Supportive (6)	The extent to which there are opportunities for mutual support The extent to which staff provide support for patients
Containing (4)	The nature of the ward as containing of difficult emotional experience and as a space where difficult experiences can be understood
Tolerance of Expression (3)	The ward facilitates personal expression and tolerates difference
Empowerment (4)	The extent to which patients are empowered and have a sense of personal agency
Focus on developing Life skills (2)	Availability of opportunities to develop skills for community living
Personal development opportunities (6)	Availability of Interventions to facilitate personal development
Safety (3)	The experience of personal safety on the ward
Organisational Structure (5)	The structure of the staff team and the available mechanisms for staff support The procedures and formal structures of how the ward runs
Clarity of ward ethos (5)	The shared understanding of how the ward approaches the task of care and treatment.
Staff control (4)	The means through which staff exercise control in the ward environment The extent of staff control behaviours.
Challenging of Difficulties (2)	Mechanisms through which patients receive feedback and are challenged on their behaviour
Physical Environment (2)	The nature of the ward physical environment and the extent to which it is experienced as therapeutic and comfortable
Connectedness to Community (1)	The means through which contact with the outside world (family, friends, community) is facilitated
Validation (1)	Actions that affirm the individuality of the patient and acknowledge their personal experiences.
Occupation (1)	The provision of meaningful and purposeful activity
Service Attachment (2)	The role of the ward as a secure base, a place where patients are accepted
Staff Therapeutic Orientation (3)	The level of focus of staff members on their caring role
Patient Motivation (1)	The internal motivation of the patient
External environment Factors (1)	The systemic factors that can impact on the functioning of the ward.

C: List of excluded studies with reasons

Study	Reason for exclusion
Adams (1998)	Not available (Thesis)
Addo (2006)	Thesis study that focuses on nurse's experiences of working with sexual offenders, work environment described as a theme, but no discussion of social climate
Astbury et al. (2011)	Excluded as it does not discuss social climate - focus is on process of implementing change.
Baby et al. (2014)	Article describes staff member's experiences of assault. Does not describe perspectives on social climate
Barsky & West (2012)	Excluded based on low quality
Bartlett (2003)	Not available
Bos et al (2012)	Study does not identify sample as forensic. Unit described is a secure unit for "difficult patients"
Byrt et al (2001)	Does not report on qualitative data, provides review of service developments in a secure service.
Caldwell et al (2005)	Not a forensic sample
Cashin et al (2010)	Not related to social climate, describes nursing role in prison hospital setting
Chandley et al (2014)	Action research study – Study describes ward through lens of recovery – not focused on social climate
Chanpakkee & Whyte (1996)	Article focuses on role of primary nurse. Does not focus on experiences of social climate and only mentions therapeutic environment in a tangential sense.
Chinn et al (2011)	Not a forensic sample
Clark (1991)	Not available
Clarkson et al (2009)	Study focuses solely on patient perceptions of staff attributes rather than wider concept of social climate
Cook et al. (2005)	Focused on staff and patient experiences of Tidal Model of nursing care rather than social climate
Coughlin (2003)	Article presents quantitative analysis

Study	Reason for exclusion
Cromar-Hayes et al (2015)	Article discuses recovery approach in forensic mental health settings. Does not discus social climate
Duxbury et al (2005)	Not a forensic sample
Fish & Lobley(2001)	Sample is drawn form a non-hospital setting – community based apartments where service users receive 24hr care.
Ford et al (1999)	Reports outcome of patient satisfaction survey. Only tangentially addresses social and physical environment. Presents data in terms of quantitative frequencies with few illustrative quotations
Gildberg et al. (2012)	Study focuses solely on models of nursing care and nurse – patient interactions in a forensic setting. Does not discuss social climate
Heyman et al. (2004)	Case study focused at the organisational level and the operation of services rather than perceptions of social climate
Hinsby & Baker (2004)	Grounded theory study of staff and patient views of incidents of violence. Study does not look to examine perspectives of social climate or the environment
Jacob (2009)	Thesis - Reports on same data as Jacob & Holmes (2012) (in review)
Jacob (2012)	Study describes outcomes of a study examining the impact of being responsible for both care and custody. Does not reference social climate
Jeffcote (2005)	Data also reported in Kurtz & Jeffcote (2011)
Kurtz & Turner (2007)	Study appears to use part of the same dataset (PDU sample) from Kurtz & Jeffcote (2011). Excluded to avoid duplication of participants.
Livingston & Nijdam-Jones (2013)	Study focuses on treatment planning process rather than experience of social climate – themes identified are relevant to social climate model identified.
Livingston et al (2012)	Reports quantitative data only
Livingston et al. (2013)	Mixed methods study examining the impact of patient engagement measures. Qualitative analysis focuses on the impacts of the introduced programmes and does not address perspectives of social climate
Maguire et al. (2014)	Study of limit setting in a forensic psychiatric setting. Does not include a wider conceptualisation of social climate
Maltman et al (2008)	Article focuses on perspectives of admission and assessment and the personal meaning of admission rather than the influence of external factors.

Study	Reason for exclusion
Martin (2009)	Exclude – Focused on factors that impact on patient engagement.
Mattson & Binder (2012)	Study focusses on a non-forensic secure ward for individuals who self-injure
McKenna et al (2014)	Not a forensic sample – ward case study of "secure care" facility. Identified in article that not a forensic mental health setting.
McKeown et al (2014)	Article focuses on implementation of involvement activities. Does not discuss social climate
Mercer (2013)	Discourse analysis study examining talk about pornography in a secure forensic setting. Study does not assess staff or patient views of social climate
Mistral et al (2002)	Sample is not forensic
Moore & Freestone (2006)	Paper does not report on any data, it is an expert opinion paper based on experiences of ward meetings in DSPD unit
Nijdam-Jones (2012)	Thesis - Data reported in empirical paper (Livingston et al 2013)
Oeye et al (2009)	Not a forensic sample
Olsson et al. (2014b)	Discusses patients individual experiences of turning towards recovery – does not focus on social climate
Parkes et al (2015)	Paper describes the impact of transitions between services rather than social climate
Parrott (2010)	Article focuses on significance of material culture rather than social climate
Patel (2014)	Does not refer to social climate – looks at role of psychologist in an inpatient forensic setting
Riordan & Humphreys (2007)	Excluded based on reporting quality – staff satisfaction study in medium secure care
Robinson (1994)	Excluded based on review of published account (Robinson, 1995). Mixed method observational study focused on developing quality indicators for clinical care. Does not present perspectives on social climate.

Study	Reason for exclusion
Rose et al. (2011)	Study focuses on concept of respect – does not consider experiences of the ward as a whole
Rossiter (2015)	Exclude – Focuses on experiences of trauma in females involved in forensic services
Ryan et al (2002)	Content analysis study of perspectives of ideal treatment, does not describe lived experiences and themes not presented in a way that can be extracted to study.
Sasse & Gough (2005)	Paper discusses bullying, but does not address concept of social climate
Schafer & Peternelj-Taylor (2003)	Sample is prison based
Secker et al (2004)	Not a forensic sample
Somers & Bartlett (2014)	Does not discuss ward level factors, focused on pathway of care and organisational level issues
Spencer et al (2010)	Not a forensic sample or inpatient sample
Urheim et al. (2011)	Longitudinal case study of changes in patient autonomy in a forensic setting. Does not address social climate
Voogt et al (2015)	Not a forensic sample
Ward (2011)	Not a forensic sample

D: Data Extraction form and Quality Criteria

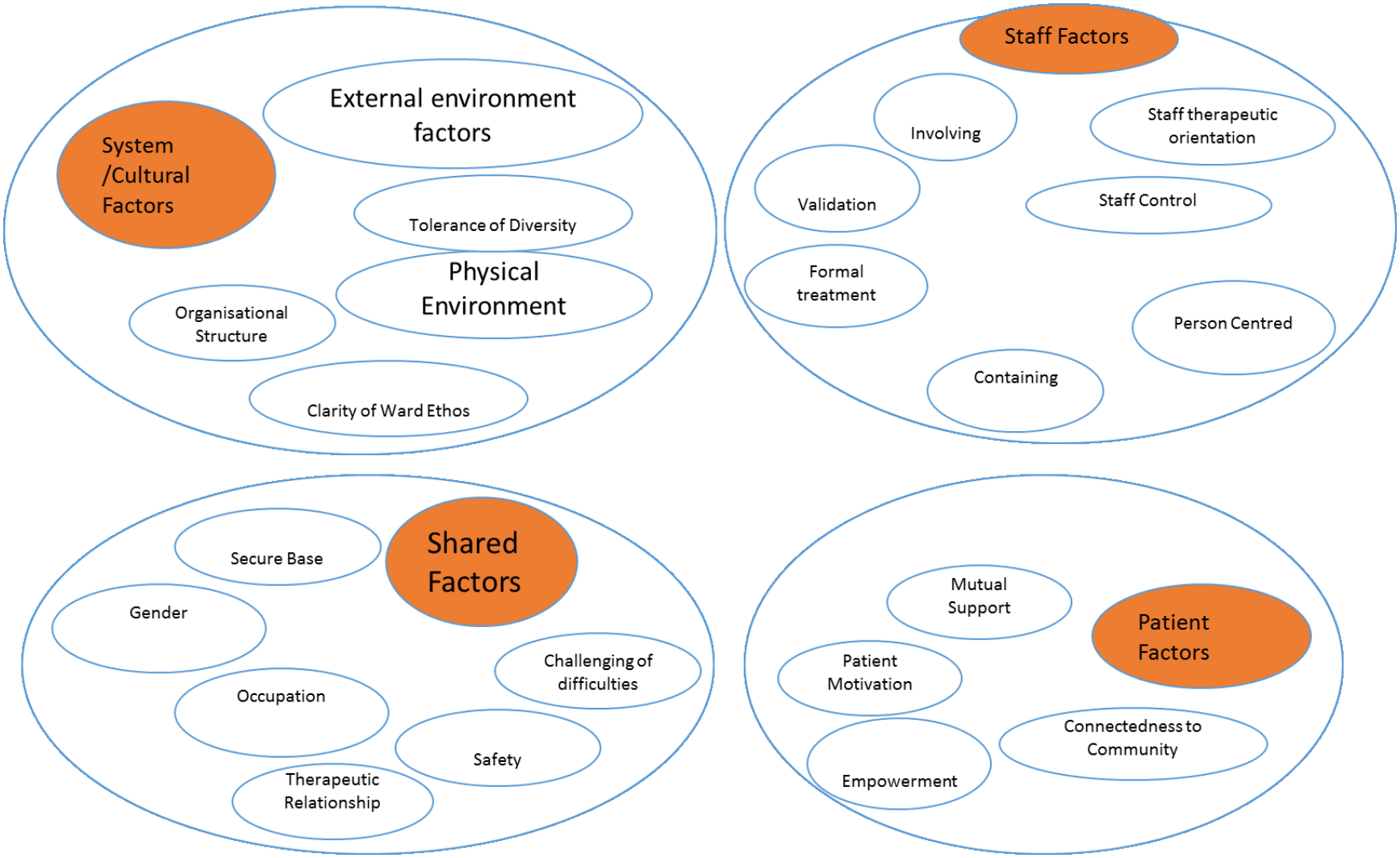
Data Extraction form							Quality Item	Quality Criteria Rating
Study Reference								
Study Type	Journal Article		Thesis		Book Chapter			
	Other							
Name of reviewer	Reviewer 1		Reviewer 2					
Eligible	Yes		No		Unclear			
Type of Study	Qualitative		Mixed Methods		Case Study			
	Other							
Participants	Staff		Patients		Both staff and patients			
	Other							
Setting	High Security	Medium Security	Low Security	DSPD unit				
	Other							
Country								
DESIGN								
Rationale for research								
Study Aims							1	-/+/++
Theoretical perspective							2	-/+/++
Ethical Concerns addressed	Ethics Approval	Informed Consent	Confidentiality				3	-/+/++
	Other							
Participants								
Participant Selection strategy							4	-/+/++
Participant Coverage	Response rate reported:							
Inclusion and exclusion criteria	Inclusion		Exclusion					
Sample Size								
Participant gender	Male		Female		Not recorded			
Data Collection								
Method of Data collection	Interviews	Focus groups	Document Analysis	Surveys	Case Study	Ethnography	5	-/+/++
	Observation	Other						
Period of								

data collection					
Discussion of method selection					
Role of researcher Fieldwork / Field notes					
Analysis					
Data Analysis approach	Grounded Theory	Thematic Analysis	IPA	6	-/+/++
	Framework	Content Analysis	Other		
Description of analysis method					
Detail on context for individual and setting				7	-/+/++
Exploration of diversity in findings				8	-/+/++
Sources of Bias from researcher discussed					
FINDINGS					
Themes:					
Subthemes					
Credibility of findings				9	-/+/++
Conclusions					
Impact of findings				10	-/+/++
Clarity of Linkages				11	-/+/++
Clear Reporting				12	-/+/++
Outcome of Review					
Second reviewer	Not reviewed	In Agreement	Disagree		
Inclusion	Include	Exclude	Unclear		
Evaluative Summary				Final Rating	-/+/++

Quality Criteria Framework

Item		**Name**	Based on QC	Description	Rating
1	Design	**Study Design & Aims**	Cabinet Office 6, Carroll et al (1), CASP 1, 3	The study design is reported, is defensible, a rationale is provided and is appropriate to the question	-/+/++
2		**Explicit theoretical perspective**	Cabinet Office 16	Explicit coverage of the main hypotheses on which the evaluation was based. Discusses the ideological perspectives of the research team.	-/+/++
3		**Ethical Concerns**	Cabinet Office 17, CASP 7	Attention given to ethical concerns, including description of processes for gaining participant consent	-/+/++
4		**Participant Selection & Participant Coverage**	Cabinet Office 7, Cabinet Office 8, Carroll et al (2), CASP 4	The selection of participants is explicitly described How well is the eventual coverage of the final sample described	-/+/++
5		**Method of Data collection**	Cabinet Office 9 Carroll et al 3, CASP 5, 6	Details of data collection process are reported, including discussion of impact of method on data collected	-/+/++
6	Analysis	**Method of analysis**	Cabinet Office 10, Carroll et al 4, CASP 8	Description and rationale given for method of analysis. Description of how descriptive categories and constructed concepts were developed	-/+/++
7		**Contextual Information**	Cabinet Office 11	Description of both historical and social/organisational characteristics of study sites. Individual contributions are contextualised	-/+/++
8		**Exploration of diversity**	Cabinet Office 12	How well diversity of perspectives are explored. Attention shown to negative cases, outliers and exceptions	-/+/++
9	Findings	**Credibility of findings**	Cabinet Office 1, CASP 9	Findings make sense and have coherent logic and are supported by study evidence	-/+/++
10		**Impact of findings**	Cabinet Office 2	Discussion of how findings have contributed to knowledge and understanding	-/+/++
11	Reporting	**Clarity of Linkages**	Cabinet Office 14	Clear links between analytic commentary and presentation of original data	-/+/++
12		**Clear Reporting**		Reporting linked to study aim. Provides a clear narrative, and provides a structured commentary	-/+/++
Overall rating					-/+/++

E: Initial grouping of factors



F: Links between model of social climate and commonly used scales

Model of Social Climate Factors	WAS	EssenCES
Secure Base		
Therapeutic Relationship	Support	Therapeutic Hold
Mutual Support		Patient Cohesion and Mutual Support
Care and Treatment Orientation	Staff Control Spontaneity Autonomy Order and Organisation Program Clarity	
Therapies	Personal problem Orientation	
Meaningful Activity	Practical orientation	
Consistency		
Safety	Anger and Aggression	Experienced Safety
Involvement	Involvement	
Physical Environment		